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JOURNAL

— 1992 —

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NOTES TO CONTRIBUTORS

It would ease production of the *Journal* if contributors would adopt as many as possible of these guidelines:

- ☐ type or write clearly on one side of paper
- ☐ use A4 size paper : A5 for pictures
- ☐ leave alternate lines blank for editing
- ☐ leave one clear margin
- ☐ give English name of subject followed by Latin name
- ☐ identify location of excursions by place names or OS map reference
- ☐ include contributor's full name and telephone number – even for Nature Notes
- ☐ please get copy to the Editor by **early November**.

EDITORIAL

This year has seen the first tangible result from the purchase of the Club computer – a library database, details of which are elsewhere in the *Journal*.

Our President, David Jones, has now completed his term of office; many thanks to him and a welcome to the new incumbent – Jackie Muscott.

The society has introduced a Wildlife Primary Schools Competition this year, thanks to the generosity of the late Mrs. Janie Walker. Further details of this are provided by David Jones in this issue.

Once again thanks are due to John Sheldon for providing us with a flagship article, as he has done for the past eleven years. In fact, many thanks to all contributors – particularly those sending in Nature Notes, of which we have a bumper crop this year.

A new departure is the introduction of a Crossword. I hope I can trust members not to look at the answers first!

John Winham

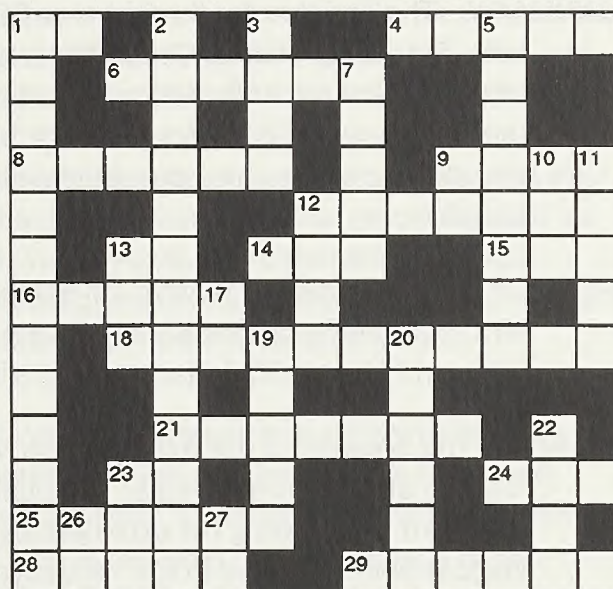
Professor Frank Bell

Members of the Society will learn with regret of the death of Professor Frank Bell in a nursing home in Cheltenham on 27 January 1992. Professor Bell was Professor of Chemistry at Heriot-Watt University from 1950 until his retirement in 1966. It was in 1959 that he became President of the Society. His three years of office revealed a man of great integrity and in whom good sense and good humour united to win the respect – and affection of everyone. His retirement years were spent near Cheltenham where he continued his interest in all aspects of country life, and in his latter years he was still able to enjoy short walks in his beloved Cotswolds. Today we offer our sincere sympathy to Mrs Bell and his family.

CROSSWORD

The following crossword was acquired at Kindrogan Field Centre this year from Judith Allinson, who compiled it for the Grass Course which she teaches. Several teams attempted it in the bar one evening, but only the Lichen Course came up with the correct solution (I'm glad to say).

Answers on page 9.



Across

1. Grasses, sedges and rushes are where it's all _____. (2)
4. The pith of *Juncus squarrosus* can be dipped in wax and burned to make a _____. (5)
6. A hairy grass with red stripes at the base of the sheath. (6)
8. Where the grass leaf blade is _____ onto the sheath there is a ligule and sometimes auricles. They may serve to shoot off the water as it runs to the base of the blade and so prevent it from getting into the sheath. (6)
9. I wonder what species of grass you would find growing by the village _____? *Poa annua*, I expect. (4)
12. Sedge common in limestone grassland and milk. (7)
13. Tufted hair grass leaves have transparent motor cells between the ribs, _____ you can see green and white stripes when the leaves are held up to the light. (2)
14. *Eriophorum angustifolium* leaves have a long trigonous _____. (3)
15. Bird with the same name as sedge. (3)
16. Crushed *Anthoxanthum odoratum* has a wonderful _____. (5)
18. This looks similar to *Festuca rubra* but has a conspicuous ligule. (11)
21. *Agropyron repens* and *Festuca gigantea* have _____. Delphi had one too, but different spelling. (7)
23. See 1 across.
24. The prophyll is the sheath of a grass _____ which will grow into a new shoot. (3)
25. The _____ of a 28 across would soon wreck your lawn. (6)
28. North American grass predator. Not the chocolate variety. (5)
29. The pollen lands on the _____. (6)

Down

1. Roadside grass. (13)
2. This can be separated from its close relation by the presence of 30-40 ribs seen just below the inflorescence and broader inflorescence sheaths. (13)
3. *Nardus stricta* is an indicator of _____ grassland. (4)
5. *Carex flacca* has leaves which are bright green above and _____ below. (8)
7. The lemma, palea and lodicules are all _____ of a REWOLF SSARG. (5)
9. If the radius of *J. effusus* is r then its cross sectional area is _____ r^2 . (2)
10. If you trod on a *Phleum pratense* it would _____. (3)
11. Component of grass flower (5).
12. 2 down and 9 down might be considered _____ statements. (4)
13. *Festuca rubra* could well form part of "the common _____". (3)
17. *Blysmus compressus* is not _____ rare _____ *Blysmus rufus*. (2)
19. Persil, cut short _____ (sedge). (5)
20. An African grass. (6)
22. Displaying the grass flowers and seeds culminates the activities of the _____. (4)
23. It is probable that grasses evolved between 200 and 180 million years _____. (3)
26. *Molinia caerulea* has _____ membranous ligule but it does have a ring of hairs. (2)
27. The French for "the rush" is "_____ jono". (2)

Judith Allinson, 7.11.81

WINTER INDOOR MEETINGS – 1992

JANUARY: The speaker for the first meeting of 1992 was Mr. Mike Walsh of the Urban Forestry Unit, Edinburgh District Council. His talk was entitled "Street Trees and Urban Woodland Management within Edinburgh", and was accompanied by slides. Mr. Walsh considered three aspects of his work in the city: problems, failures and successes. The main problems included an ageing tree population, Dutch Elm disease and the means of rectifying the situation.

FEBRUARY: Mr. Graeme Hedger, of Edinburgh District Council, was unable to be with us, but Mrs. Vida McFarland stepped into the breach and gave the society a talk on her trips to India and Nepal, illustrated both by slides and examples of folk arts and crafts.

MARCH: The speaker of the evening was Mr. Ian W.J. Sinclair from the Younger Botanic Garden at Benmore in Argyll. His illustrated talk was entitled "Return to the Dragon Kingdom", describing his experiences, plant collecting in Bhutan, one of the most inaccessible countries in the Himalayas.

APRIL: Members' Night. Illustrated talks were given to the Society by the following members:

David Adamson:	East of Eccles – West of Worksop: natural history of the Sheffield area.
Susan Robertson:	A recent holiday trip to South Australia.
Elizabeth Farquharson:	Lothian badger survey records.
John Winham:	Showed the entries for the Gunn Photographic competition, and named the prizewinners as judged by Sandy Cleland.
Jackie Muscott:	Experiences as a Summer Ranger at Ben Lawryes.

OCTOBER: Following the Annual General Meeting, Dr. Gareth Edwards-Jones spoke on the topic – "Can Exploitation Enable Conservation in Scotland". The speaker, originally trained as an entomologist, had mutated into a type of economist. He examined the problem of how we can value the environment; reconciling profit and loss with what arises from the study of ecology in the field. He thought that, ideally, land use should be economic, sustainable, have minimal adverse impact and conserve species, so that our call for conservation can mesh within the needs of mining, farming, forestry and recreation.

NOVEMBER: "The Pine Marten – a Carnivore in Conflict" was the subject for Mr. D. Balharry. He described the research he had carried out into the behaviour of a number of individuals, research which is necessary to help in their conservation. Although found in the pine forests of NW Scotland they are in fact ground hunters (with a liking for raspberry jam!) who spend little time in trees. Martens are very vulnerable to human activity. They are strongly territorial and the size of the territory, normally very large, is governed by the availability of their most important food source – field voles. For most of the year they are nocturnal so not readily seen, but in summer they are more diurnal in habit.

DECEMBER: A lecture on "Scottish Sea Lochs" was given by Mr. David Donnan. He described the geology and geomorphology of the fjord, which is the typical Scottish sea loch structure, contrasting them with the sea inlets, or rias, of the south of England. Mr. Donnan explained that the zoological communities differed according to the variation in salinity, depth, speed of flow, wave exposure and the underlying geology. These communities are vulnerable to human economic exploitation, and a marine conservation plan is currently under consideration by Scottish Natural Heritage.

SUMMITS, CHARTERS AND PLANS

In June 1992 the United Nations was host to 178 countries which met in Rio de Janeiro for the most important world environmental conference ever staged – the “Earth Summit”. The last time that such a gathering of countries had taken place was in Mexico in 1981. That Summit also focused on international co-operation. However, in contrast to the 1992 Summit it ended with commitments to global negotiations on trade, development, finance and energy: subjects which we would now associate with unsustainable growth, the exploitation of natural resources and no obvious returns in relation to environmental care. Yet, in ten years, environmental damage, pollution and exploitation has brought the world to a turning point, one almost of survival. It was this that was the focal point of the Rio Summit in an attempt by the UN to seek global environmental action.

The Earth Summit took two years to prepare. It was preceded by four preparatory conferences with the objective of reaching clear agreement at Rio and the signing of treaties, charters, and the like, to resolve global environmental problems. It was an ambitious objective, perhaps too ambitious, and one which soon exposed the rift between representatives of the developed and underdeveloped countries of the world – not least on the financial consequences of action and the global responsibility of the developed nations. As a result the various debates drew much controversy.

Two treaties were drawn up but there was much bitterness and publicity on the unwillingness of the USA to accept their original wording and far-seeing objectives. The “Treaty on Biodiversity” recognises that nations should conserve the diversity of plant and animal species within their boundaries and gives provision for developed countries to assist others in achieving this. The Treaty does not lead to compulsory action but on grounds of national interest the USA refused to sign, as did also Japan and France.

The “Treaty on Climate Change” calls for developed nations to stabilise greenhouse gas emissions at 1990 levels by the year 2000. This, too, is not legally binding and to secure the signature of the USA, targets and timetables to achieve this were removed, thus falling far short of what had been planned. Two subsidiary issues, “Desertification” and an “Agreement on Forest Principles”, were also on the agenda and in due course may lead to conventions. However, neither issue was progressed and there was no conclusive outcome. There was, however, full agreement for the “Rio Declaration” which had been negotiated at pre-Summit meetings and although again not legally binding does proclaim 27 principles which relate to the protection of the environment.

This is the business of the Government and seems a long way away from the Lothians, but the British Government did become a signatory to all these things and in many ways helped to guide the Summit through its tortuous route. The consequence of signing these treaties is now awaited but this commitment has been announced and, through anticipated environment statements in Parliament, the impact of Rio will soon be tested.

Although not as well publicised, much of the Summit was actually spent in negotiating a curiously titled agreement, “Agenda 21”. This sets out how the world’s governments will tackle the environmental problems well into the twenty-first century – hence “Agenda 21”. The document itself is hundreds of pages long, divided between 40 chapters, but it defines a world action plan to hold and reverse the effects of environmental damage and to promote environmentally sound practices associated with development and economic growth. Of course, it’s not legally binding! That said, the Government did sign the agreement and through the Department of the Environment it has committed itself to an effective follow-up.

At this stage, cynicism might reign but the agreement affects us all and many of the topics are ones in which our own local government has a lead role to play. “Agenda 21” covers many subjects, including waste management, transport planning, coastal protection and conservation of natural habitats. At last we have the recognition that many of the environmental problems and

solutions have to be addressed at the local level, and for many of us it will be how our local authorities take up the challenge which will dictate how successful the Earth Summit really was in meeting its objectives.

In response to the growing environmental concerns, public pressure, legislation and an awareness of the threats, industry, local government, non-government organisations, as well as the Government, have been responding with a flurry of Charters, Codes of Practice, Statements of Intent and Mission Statements. Each is a form of environmental commitment. Some can be claimed as political gestures, or the substance of image making and "green" marketing, but if this was the intent then the public have become much wiser and alert. The environment is the property of us all, it affects the quality of our lives and that of future generations. As a consequence shallow statements and gestures are readily seized upon and challenged. In this respect the accountability of local authorities for their action is becoming greater and those monitoring this in the private and voluntary sectors have got to be listened to.

The production of "Environmental Charters" is now a common feature of local government working. Fife Regional Council is well ahead in this and many other authorities in Great Britain look to it for advice and guidance. The City of Edinburgh District was close to follow with its Charter, launched in "Environment Week" 1991, while Lothian Regional Council published its Charter in 1992.

The Lothian Charter is bound up with declarations of commitment, principles and objectives. This is the formality of such things. What is much more important to the public it serves is the way these things are implemented. The Charter illustrates how much local government affects our lives in the services that it provides. Indeed, there is something for everyone and for the nature conservationist the action points list includes such topics as the creation of new nature reserves, the establishment of more woodland in Edinburgh, the conservation of the Union Canal, habitat creation, and the sympathetic management of roadside verges.

These are fine words unless bound to real action and the Charter does this by listing targets which various departments have been set by the Council's new Environment Committee.

"Agenda 21" is about this very thing. It seeks a commitment from all local authorities of the world to set out their environmental action plans with adequate public consultation to allow priorities to be influenced and finances allocated. Some of our authorities are thus working ahead of what was being sought at Rio. But there can be no complacency since, through the influence of Europe, even higher standards of environmental stewardship are to be sought with fearsome directives on "environmental auditing" and "environmental management systems" in the pipeline. The science is becoming so sophisticated that few understand the jargon let alone the mechanisms being developed.

The Regional Council has its Charter which will be reviewed, updated and re-published in April 1993. Of equal importance will be its new "Structure Plan" which will determine how our countryside is developed, protected and enhanced through into the next century. In this the environment features more importantly than ever before. It is not a document, however, which is produced behind closed doors, it is the subject of consultation, debate and discussion. The Final Plan will determine how the Lothians are planned and managed for the next ten years and beyond – well into the new period of local government organisation. Because this is the purpose, it is vital that in the public consultation period associated with the Plan that we take notice of what it is seeking to do and if we don't like what we read, to say so to those that are responsible for drafting it.

The Earth Summit dealt with the massive environmental problems of our time, yet the "think global, act local" philosophy brings the outcome of the Summit down to us all. The responsibility for the environment cannot be left to the statutory bodies alone, it is our environment and our responsibility to protect it.

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Dr. John C. Sheldon

SYCAMORE IN SEMI-NATURAL WOODLAND

(originally written for the Scottish Wildlife Trust:
Reserve Management Information Sheet No. 6)

1. Introduction

For many years conservationists have been voicing disquiet about the spread of Sycamore in semi-natural and ancient woodlands. Recently, Sycamore's unpopularity amongst conservationists has been discussed by a number of authors (e.g. Taylor, 1985; Morton Boyd, 1992). Willcox (1991) summarised this alternative view (drawing particularly on Taylor's paper) in order to stimulate discussion in Reserve Management Information Sheet No. 1. One of the latest of these papers (Taylor, 1985) was recently summarised by Neil Willcox (1991) who presented this alternative thinking about Sycamore. This information sheet looks at the situation in semi-natural woodland and echoes the traditional view from a local (Lothian) perspective.

2. Status of Sycamore

Taylor gives the area occupied by Sycamore (Forestry Commission, 1974) as 1.6% of total woodland cover and 4.6% of the total deciduous woodland in Britain. J. Morton Boyd quotes the Forestry Commission Census 1979-1982 (Locke, 1987) putting the totals as 3% and 9%, respectively (a doubling of numbers in under 20 years?), while in Scotland the figures he gives are 1% (emphasising the huge extent of conifer plantation) and 12%. Even this latter figure fails to convey the full extent of Sycamore domination of much of our local deciduous woodlands. Good and Munro (1981) give an estimated number of trees (over 30 cm in diameter) in Lothian (Edinburgh excluded) as 5,400,000. In descending order the most common tree Sycamore (630,000) is followed by Hawthorn, Scots Pine, Birch, Norway Spruce, Ash (380,000), Wych Elm (350,000 – but recently devastated by Dutch Elm Disease and certainly now much less), Larch, Beech (270,000) and Sitka Spruce (250,000). There are fewer Oak but it is included with "others" (1,250,000 or 23.2% of the total). From these figures it would appear that in Lothian the present total number of the traditional Oak, Ash, Elm trio is now not much more than the total number of Sycamores alone.

3. Sycamore in established woodlands

Taylor (1985) says that Sycamore is still spreading and continuing to invade many different habitats. This is manifestly apparent in Lothian. Although Sycamore was introduced into Scotland in a few areas several centuries ago it is apparently only during the last 200 years that the rapid increase and spread has taken place. He argues that, because of the different ecological requirements of the various tree species Sycamore will only increase until a natural balance is reached within the wood. Beech, another introduced species, seems able to compete in some situations such as slightly open canopy and Ash, which like the others seeds profusely, has an advantage on the wetter slopes.

Oak, arguably our most important woodland species from a conservationist's point of view, is at a severe disadvantage in Lothian, as it suffers from the following factors:

- (a) it requires open canopy to regenerate and our woods tend to come to a sudden halt at a fence with grazing or cultivation on the other side;

- (b) Jays, which are one of the main factors in Oak dispersal, are practically absent here.

Taylor (1985) puts forward a general theory of woodland development suggesting that in undisturbed woodland, "Sycamore invasion should be a slow process, with a gradual increase in abundance to a point of equilibrium ...". The Lothian situation is that during the time that it has taken for an acorn to become a flourishing mature Oak tree, Sycamore has increased from a very few planted trees to become the most common tree species in Lothian, nearly twice as common as Ash and three times as common as Oak. In Roslin Glen SWT Reserve, part of one of the few remaining Oak woods in South-east Scotland, Sycamore is widespread and extremely invasive. It had become the most common tree and the many thousands of saplings, appearing wherever there is a gap in the canopy, suggests that there is little sign of it reaching an "equilibrium" with its competitors. By the standard of the life-span of a forest tree the "slow process" of Sycamore penetration has occurred, and is continuing, at devastating speed.

4. Conservation value of Sycamore

All tree species in a wood have a conservation value and it is necessary with an introduced species in an ancient woodland situation to evaluate these positive aspects against any possible ecological damage that may be caused. Sycamore has an early and dense foliage and in the older trees a fissured scaly alkaline bark. Perhaps because of these factors and the consequent deep shade cast in summer the trunk provides a good habitat for bryophytes and lichens. Under the tree, particularly in a single species situation, there is a reduced ground flora.

There is a very high invertebrate biomass, mainly aphids, associated with Sycamore which, with their associated "honey-dew" excretion, is food for many invertebrates and birds. The hover-fly, *Epistrophe grossulariae*, has a rare Ichneumon parasitoid which specifically searches Sycamore leaves for potential hosts (Graham Rotheray, pers. comm.) and there are many other such cases. With birds the value of the high invertebrate biomass is less. There is a high turnover of population in small birds (in a normal year half of this season's breeding adults will be dead by next spring), so a good fledging success is necessary. In this respect the high biomass of aphids on Sycamore, or elsewhere, is of little value. All of the small passerines breeding in woodland, including the finches that winter in the open fields and the millions of warblers that pour north for our summer, rely on the enormous "flush" of early summer caterpillars to rear their young, perhaps because of their high protein and fat value compared to the carbohydrate rich aphids. If there is a failure of the caterpillar "crop" there is a catastrophic failure of the passerine "harvest" of young birds. Perhaps because of the high aphid biomass the number of caterpillars on Sycamore is very restricted, which limits its value to breeding birds. One positive feature of Sycamore is its annual production of vast quantities of insect-pollinated flowers providing a short "bonanza" for many insects including Bumble and Honey Bees. On the negative side there is the heavy annual seed-crop which carpets the ground locally and downwind producing innumerable seedlings.

To summarise, there are the "plus" aspects of good bryophyte and lichen habitats, although most of the species involved are widespread and none of them is restricted to Sycamore. More important perhaps are the invertebrates associated with, and a few of them confined to, the Sycamore aphids. In a local context they may seem to merit consideration but the matter is put into perspective when one considers the 600,000 Lothian Sycamores outwith the Reserves. The tremendous burst of spring flowers provide a welcome food for many insects but its value is overwhelmingly offset by the invasive nature of the ensuing seeds.

The negative side of the picture is that, in our few remaining ancient woodlands, Sycamore is taking over from our native trees and occupying precious ground where Oaks, Gean, Rowan, etc. should be growing. These old woodlands are a reservoir of associated invertebrate species and, once lost, some of them will have gone for good. We can create new Oakwoods but some of the invertebrate species indicative of ancient woodlands will not recolonise.

5. Control of Sycamore

It is sometimes suggested that, in a semi-natural woodland with a good proportion of Sycamore, one should retain the mature trees and control regeneration. When Sycamore saplings are cut at ground level, unless the stumps are treated with a suitable herbicide (Garratt, 1992), there is the problem of regeneration from the stumps. This can be controlled if cut back regularly for several years but, and it is a big but, there is the annual crop of seeds sown over the same area and the problem is going to be repeated *ad infinitum*. We should not consider an annual dosage of toxins (herbicides) as tolerable in a nature reserve quite apart from the unending man hours required. The only realistic solution is to remove the source of the problem by getting rid of the mature trees.

6. Conservation of semi-natural woodlands

Every semi-natural or ancient Oak wood has a nucleus of mature Oaks with the best of them containing Ash, Elm, Gean, Bird Cherry, Hazel, etc. If there is a Sycamore component there is the problem of further penetration with only a hypothetical chance of a “point of equilibrium” being reached at some point in the future.

The ideal management of ancient woodland is surely to achieve a scenario where management input is minimal. If all Sycamore is removed and a good mix of hardwoods, sapling, mature and over-mature, is established the wood will (largely) look after itself. Because man’s activities are partly responsible for the poor regeneration of Oak there will have to be the occasional planting of this species. Taylor (1985) and Morton Boyd (1992) suggest that Sycamore in ancient, semi-natural woods should be “carefully evaluated” (Taylor) and “eliminated or its extent restricted by heavy thinning” (Morton Boyd). In the vast areas of private and forestry woodlands where commercial interests are dominant the use of Sycamore as a crop tree will ensure its continual existence, thus conserving the associated invertebrates. When one considers the small area of woodland under any sort of nature reserve management, even where Sycamore is a dominant or co-dominant, there is a strong case for managing these areas with the aim of restoring them to natural mixed woods even if it takes 100 years. It is a small time-scale in the life of a forest tree.

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6. Willcox, N.A. (1991). SWT Reserve management Information Sheet No. 1: The Place of Sycamore on Nature Reserves.

Bob Smith

Across		Down	
1. At	16. Aroma	1. Arrhenatherum	13. Sod
4. Light	18. Deschampsia	2. Conglomeratus	17. As
6. Holcus	19. Auricle	3. Acid	19. Curta
8. Hinged	23. At	5. Glaucous	20. Millet
9. Pump	24. Bud	7. Strap	22. Culm
12. Panicea	25. Ungula	9. Pl	23. Ago
13. So	28. Moose	10. Mew	26. No
14. Tip	29. Stigma	11. Palea	27. Le
15. Owl		12. Pith	

RAVELSTON HOUSE WOOD

Two or three years ago it was suggested that those members interested in fungi should look for a convenient small site which could be visited quite frequently, and a record kept of the finds.

After a bit of searching, Ravelston House Wood was chosen. This small wood is in the Blackhall area of Edinburgh and was once part of the Ravelston House Estate. Early last century the estate belonged to the Keith family, and Sir Walter Scott was a frequent visitor there, being related to Mrs. Murray Keith. In 1822, when George IV visited Edinburgh, Alexander Keith was created a baronet. At a later date ownership passed to the Stewart-Clarks, but after the house became unoccupied in 1960, the Merchant Company acquired the house and grounds for the Mary Erskine School. The wood, which includes an ice-house and lies behind and above the school grounds, has passed into other hands.

The driveway from the Lodge and Gates on Queensferry Road leads through part of the wood before entering the back of the school grounds. At the far (west) end of the wood, close to the junction of Ravelston Dykes Road and Craigcrook Road lies the disused and partially infilled Ravelston Quarry, which, if cleaned up, could make an attractive pond. Formerly, the estate owned several quarries in the immediate vicinity which were known collectively as the Ravelston Quarries. From these, top quality sandstone was removed for buildings in Edinburgh and elsewhere up until about the time of the First World War. Gradually other building materials came into use and the quarries were finally closed. The two largest, the one in this wood and one by Ravelston Golf Course, have been infilled.

The ground on either side of the driveway near the Lodge has suffered considerably from the dumping of rubble and rubbish on the slopes, probably at the time when houses were being built on the higher ground. Nevertheless, large numbers of the Shaggy Parasol (*Lepiota rhacodes*) have appeared here during the past two seasons, and a bundle of rotting newspapers produces a good crop of the Eyelash fungus (*Scutellinia scutellata*). *Collybia confluens* is everywhere, and a dump of garden waste produced a magnificent display of Lawyer's Wig (*Coprinus comatus*) during August and September.

Further along the driveway some old trunks of felled trees have been left to rot. This year the Dog Stinkhorn (*Mutinus caninus*) appeared briefly beside one of these, while in the woodland behind, a colourful patch of *Phaeolepiota aurea* brightened up a dull patch of Bishopweed.

The trees in the wood are well established and mostly form a closed canopy. Beech, Oak, Sycamore, Lime, Ash, Birch, Scots Pine, Larch, Holly and Hawthorn are present. Many of the common fungus species associated with these trees have now been recorded. Where the canopy is broken, bracken and brambles are dense.

The total length of the wood is under half a mile, and the width at the far (west) end is approximately 500 yards, narrowing to about 30 yards near the Lodge gates. Close to the quarry, the soil is very poor and the grassland and scrub have produced little, apart from a patch of Weeping Widow (*Lacrymaria velutina*).

Hopefully, records can be kept for several years. To date, about 80 of the larger fungi have been listed. The fate of the site is in some doubt having been bought a few years ago with a view to development. One has heard that planning permission for one venture was refused and the present recession may give the wood a temporary reprieve. Many people walk in the wood and there has been a suggestion that it be kept as a green area.



Lawyer's Wig (*Coprinus comatus*)

* *Ravelston House continued*

When Ravelston House Wood was suggested as a “study area” for those interested in fungi, I thought it would be a good idea to look at the flowering plants and ferns too. As it happened I visited several times in the spring (indeed, I took an evening class there), once only during the summer, and not at all in the autumn when I was busy trying to complete my surveying work. So I missed virtually all the fungi, and probably one or two of the plants. (I notice that Couch Grass is not on my list, but it’s a late-flowering grass, and I expect it’s there somewhere.)

In fact I ended up with a list of around 140 species from a mixture of habitats – rocky woodland; waste ground, paths and verges; a bit of open grassland; and the remains of the quarry with some wetland. None of the habitats was particularly rich, but the variety ensured a decent plant list, including some garden escapes.

Unusual plants to be found there include Imperforate St. John’s Wort (*Hypericum maculatum*) as well as the Common or Perforate St. John’s Wort (*Hypericum perforatum*), Climbing Corydalis (*Corydalis claviculata*), and the Lesser Hairy Willowherb (*Epilobium parviflorum*).

I did not find any Dog’s Mercury (an old woodland indicator) but there were Bluebells (*Hyacinthoides non-scripta*), Honeysuckle (*Lonicera periclymenum*), and the slender Wood Poa (*Poa nemoralis*). The ferns were all common ones – Bracken (*Pteridium aquilinum*), the two Male Ferns, *Dryopteris affinis* and *Dryopteris filix-mas*, and Broad Buckler Fern (*Dryopteris dilatata*), plus the Common Horsetail (*Equisetum arvense*).

Many of the trees and shrubs are non-native, including the Butterfly Bush (*Buddleja davidii*) which establishes itself well in bare and rocky places, Cotoneaster, probably brought in by birds, and Laburnum (*Laburnum anagyroides*), Cherry laurel (*Prunus laurocerasus*), the purple Rhododendron (*Rhododendron ponticum*), Snowberry (*Symphoricarpos rivularis*), Lilac (*Syringa vulgaris*), Sweet Chestnut (*Castanea sativa*) and Norway Maple (*Acer platanoides*), which will have been planted at some time or another. Most of the conifers will also have been planted, with the possible exception of Yew (*Taxus baccata*).

Since my visits were mainly in the spring, and the summer visit was quite late in the day, I did not see many butterflies – just a few Meadow Browns skulking in the long grass. There was plenty of evidence of the midge (*Jaapiella veronicae*), however, as it lays its eggs on Germander Speedwell (*Veronic chamaedrys*) creating a white hairy terminal gall in which a small orange caterpillar can be found. This gall is common everywhere.

I was also able to add one fungus to the list, since there was quite a lot of Sorrel (*Rumex acetosa*) in the patch of “meadow” and this was heavily infected with a smut *Ustilago kuehneana*. The smut hijacks the reproductive organs of the plant, replacing the fruit by a powdery, purple spore-mass. I had seen a similar infection on the Mountain Sorrel (*Oxyria digyna*), but had never noticed it on lowland sorrels before. (Incidentally, it’s a different smut which infects the Mountain Sorrel: these fungi are very plant-specific).

To conclude, it’s an attractive place to walk, well used by the locals, and it would be a pity to see it developed: we need these little oases in the city. The quarry could be very attractive if cleaned up – preferably by removing rubbish and introducing water plants to improve the quality of the water, rather than planting roses!

It would be necessary to control some of the introductions – the devastating Few-flowered Leek (*Allium paradoxum*), which reproduces by means of bulbils, and has taken over large parts of Blackford Glen, Japanese Knotweed (*Reynoutria japonica*) and of course *Rhododendron ponticum*.



Editorial note

Charles Rawcliffe has also been recording in this wood, since 1991. He lists nine species of lichens; various species of Crustacea and Centipedes and the following notes:

- 13/7/92 One Fox, sunning itself above the quarry, one Red Admiral.
6/8/92 One Red Admiral; several Large Whites.

THE WALKER FUND SCHOOLS COMPETITION

A bequest of £1,000 from the estate of former member, Mrs. Janie Walker, was given to the Edinburgh Natural History Society with a request that it should be used to help encourage youngsters to learn more about wildlife. This generous gift enabled the Society to initiate a competition for Edinburgh schoolchildren in 1992.

Discussions with the Head Teachers and senior staff at three Regional Council primary schools helped us to formulate a framework that fitted the bequest and at the same time enabled the work for the competition entries to form part of the particular projects that the teachers wished their pupils to undertake.

The following guidelines were set up and at present we envisage that the competition will be continued annually on the following or a similar basis:

1. Three schools are invited to take part. Three different schools will be invited each year.
2. Each school will enter as many children as it chooses in two age groups: 7-9 and 10-12, the effective date dividing these groups will be 1 April.
3. There will be two subject classes in each competition: A. "Words" and B. "Pictures".
4. The subject shall in each instance be *Wildlife*, the actual subject-matter within this broad category to be left to the teacher to arrange – with each individual child if she wishes.

Awards to be made as follows:

- ☐ A small prize will be given to the outstanding entry in each category in each school. This year it was a token from John Menzies, valued at £5.00
- ☐ Each school entering the competition will receive an award, of a value such that it will enable them to buy some new books or videos for their library. Alternatively, they could purchase some other piece of suitable equipment for nature study or gardening.
- ☐ Each year an attempt will be made to arrange a suitable time and place to present the awards in mid-June or earlier.

This, the first year of the competition, saw the following schools taking part: Abbeyhill Primary, Balgreen Primary and Blackhall Primary. The entries numbered somewhere in the order of 150 drawings, with a number of these artists also submitting written material. Many others, not confident of their artistic abilities chose to write a poem or some lines of prose. Standards were difficult to judge, but there were, as always, a few outstandingly good entries. However, choosing the one winner was not always an easy task – and our judges didn't always agree. Despite this, compromise was always reached in an amicable fashion. Each child who submitted an entry was awarded a certificate. The winners and those whose efforts were highly commended are listed overleaf.

Blackhall Primary School

Picture (10-12) —

Winner: Jennifer Wood, "Jungle"

Highly Commended: Yvonne Mackintosh and Laurie Wardlaw

Picture (7-9) —

Winner: Tony McGuire, "Macaw"

Highly Commended: Alexander Auyeung

Commended: Adeline Potter, Laura Graveling, Sara Dods and Saira Nour

Primary 3 —

Group entry "Camouflage in Wildlife"

Highly Commended, especially "Lion", by Graeme, Andrew Stratham's "Sole", and "Cheetah" (no name supplied) – prize awarded to whole class.

Primary 2/3 —

Highly Commended group entry; collage of "Danny Fox"

Words (10-12) —

Winner: Laurie Wardlaw, "Tawny Owl"

Commended: Kieth Mitchell, "Under the Jungle Sun"

Words (7-9) —

Winner: Laura Graveling, "Wildlife"

Abbeyhill Primary School: "Endangered water birds"

Picture (10-12) —

Winner: Rachel McGill (P7)

Highly Commended: Lisa Ferguson

Commended: Ross Kelly

Words (10-12) —

Winner: Lisa Ferguson (P7)

Balgreen Primary School: "Endangered wildlife"

Picture (10-12) —

Winner: Hazel Bon (P6B)

Highly Commended: Lucy Duncan

Commended: Craig Yardley

Picture (7-9) —

Winner: Lindsey Whiteford (P4a)

Commended: Stuart Clark

Words (10-12) —

Winner: Jamie McIntyre (P6B)

Highly Commended: Hazel Bon (P6B)

Commended: Lucy Duncan (P6B)

We have not been able to include all the prize winners' work, but a selection follows, together with a short article from Blackhall Primary School about their wildlife garden.

David Jones

Blackhall Primary School – Our Wildlife Garden

We first had the idea of a wildlife garden back in 1990. It began by selecting an area under some trees which was fenced off by a parent and his team of workers – children included. A pond was donated by Pinegrove Garden Centre and a team of willing parents helped to excavate the site for the liner.

A group of children wrote to the Royal Botanic Garden in Edinburgh for advice on planting out the pond. They were extremely helpful and gave us a selection of young pond plants. Last term, summer '92, we entered a

Grounds for Improvement Award Scheme and won £200. We have used the money to buy a garden bench and a gate into the garden. We have now got a maintenance plan and our first job in the spring is to paint the fence.



The Tawny Owl

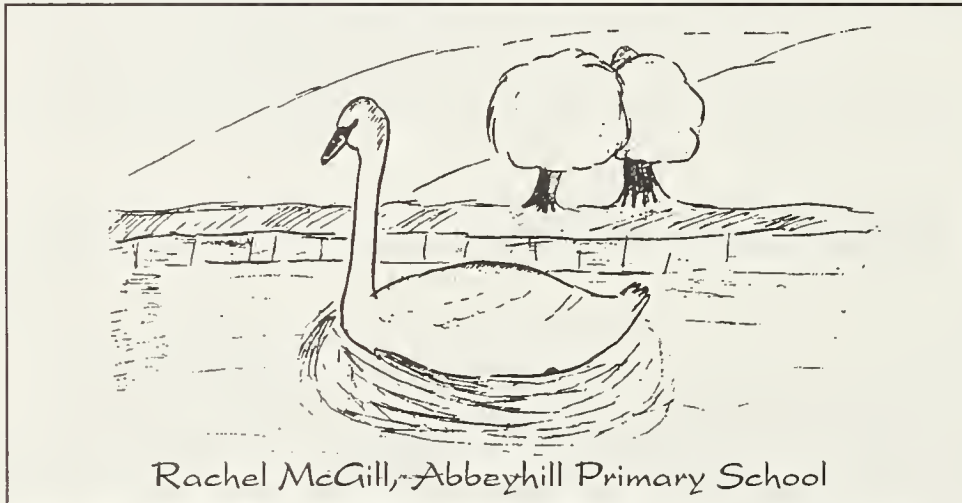
The Tawny Owl's sight
Is hopeless in light
His best time is dark
When flying through the park
In search of his prey
At the end of each day
He swoops and he dives
Until he finds his prize
A rabbit or mole
A fieldmouse or vole
Not by sight but by sound
The prey is found.

(Laurie Wardlaw,
Blackhall Primary School)

~Our Water~
To us water can be used in many
ways, we use it in our toilets yes
we use it every day.
We use water to wash we use
water to drink,
to wash our dishes we fill up
the sink.
There are too many things polluting
our water,
to dump your trash is pure animal
slaughter.
Too many sea animals are becoming
extinct,
and when it's us that's killing them
it really makes you think.
If you want to help just be like me,
when you go to the beach don't
pollute our sea.

Samie McIntyre

Balgreen Primary School



Rachel McGill, Abbeyhill Primary School



Lindsey Whiteford, P4a, Balgreen Primary School

EL NINO

It has been said that the best way to visit an island is to have been there before. Perhaps there is no better illustration of this allusion than to revisit the Galapagos during an El Nino year.

On 1 April 1992, four ENHS members and an adoptive member from south of the border landed at Baltra airstrip on the Galapagos and boarded the yacht *Andando*, our home for the next seven days. For two of us it was a return visit as we had first become acquainted with the Galapagos in 1990. The *Andando*, with its full complement of 12 passengers, was more spacious but much more impersonal and less accommodating than the 4-berth yacht of our previous visit. The main disadvantage this time was that we had no say as to which islands we wanted to visit and, in fact, one particular island that our group and others on the yacht had been promised when booking was not included in the itinerary.

The Galapagos is an archipelago nearly 300 miles across consisting of a succession of over 60 volcanic islands. These range from tiny islets to very large islands, the nearest being 600 miles off the west coast of Ecuador in South America. Most of the group lie just south of the Equator.

The climate is unusually dry for the tropics. Two opposing ocean currents affect both the climate of the islands and the productivity of the surrounding seas. The warm waters of the El Nino Current from the Panama Basin flow south and the cold Humboldt Current flows north from the Antarctic. The cold waters are productive carrying nutrients which sustain vast amounts of plankton on which quantities of fish feed. They in turn are preyed upon by sea-birds and sea-lions. Every four or more years the warm ocean currents from the north are much stronger than usual, causing the water temperature around the islands to be raised considerably above normal. The plankton disappears and the productivity of the sea is greatly reduced having drastic consequences for all the marine dependant organisms. The climate, too, alters with rain falling earlier and more often on the lowlands affecting the terrestrial plants and animals. 1990 was a normal year but in 1992 El Nino predominated.

The islands of the Galapagos are of different ages and stages. Some show recent lava flows and others are well vegetated. Being widely separated and far from the mainland the islands have evolved many endemic species and sub-species. These are an ever present reminder that this archipelago provided much of the material which led Charles Darwin to his brilliant deductions of the Origin of Species and the Theory of Evolution.

Some islands have precipitous cliffs while others have sandy beaches with low-lying ground behind. In the larger islands there is a central highland area and an obvious zonation of the vegetation. The coastal strip has ground-hugging salt tolerant plants. One such plant is *Sesuvium*, a succulent with tiny bright red leaves which turn green only after rain. Mangroves grow along a few sheltered shores and at the edges of lagoons. Beyond the coastal zone is the dry zone which receives no rain for months on end and usually only sporadically from late December to June. One of the plant's characteristic of this desert area is the Holy Stick Tree, so called as it is said to come into leaf about Christmas. Its wood is burned in churches as a kind of incense. Whole hillsides are covered with Holy Stick Trees and they are, for months on end, bare, grey and lifeless looking.

Drought-resistant spiny bushes and endemic *Opuntias* are also characteristic of this zone. Like many of the early colonisers the Prickly Pears (*Opuntias*) have diversified – from two ancestral forms into 14 different species/races, some of them growing up to 12 metres tall. The yellow flowers and particularly the pads are a favourite food of the giant tortoises and the land iguanas and, in 1990, there were relatively few flowers to be seen.

Only in the central highlands is there much lush green vegetation. These areas are bathed in wet clouds from June till December and have the occasional rain storm during the remainder of the year. Here, forests of *Scalesia*, a tree belonging to the daisy family, grow draped with

lichens while in the open areas are thick carpets of ferns, including Tree Ferns 10 feet high, mosses, 1 foot high club mosses and sedges.

In 1990 we could hardly walk along the way-marked trails through the dry zone without having to side-step round the breeding pairs of Blue-footed Boobies, some of them in ecstatic display “sky-pointing” with outstretched neck and bill or the male waddling round with long tail cocked up like a Wren and lifting a bright blue foot high up at every step. Frigate Birds were perched in the scrub bushes displaying their enormous inflated red throat pouches and calling like demented Red Indians as the females passed overhead. On one island the Waved Albatrosses had arrived at their breeding grounds and were performing their ritual fencing with six-inch bills in their extraordinary courtship dance. On another island, thousands of Red-footed Boobies were nesting on the tops of bushes while Masked Boobies, the Booby most similar to our own Gannet, nested on the cliff ledges. Sea-lions and Marine Iguanas were in good condition. There were however few insects to be seen and fewer land birds like the famous (but extremely dowdy) Darwin’s Finches. Only those creatures that depended on the marine environment for their food were obviously flourishing.

The scenario was dramatically changed in 1992. The long spell of rain had transformed the area. The brilliant red colour of *Sesuvium* in the coastal zone had turned to green, the Holy Sticks had burst into leaf turning the hill-sides from drab-grey to light green and the *Opuntias* were a mass of yellow flowers. Painted Locusts and other insects were much more numerous and Darwin’s Finches and Yellow Warblers were in full song and in much greater number. With the marine dependent creatures the story was quite different. The Blue-footed Boobies were just maintaining a presence on a few of the islands while the breeding sites of the Red-footed Boobies and those of the Albatrosses were deserted. There were many dead and dying Marine Iguanas along the coastal zone. These iguanas feed almost exclusively on a fast-growing green alga on the rocks beneath the sea and the alga had collapsed due to the much higher sea temperatures. On only one island a few Marine Iguanas were seen feeding on the green *Sesuvium*, an adaptation that might help the survival of their sub-species during a severe El Nino year. Sea-lions were suffering too with some pups looking little more than skin and bone.

Our observations of these natural alternations of “feast and famine” conditions on both the marine and terrestrial environments brought forcefully to mind the fragility of the eco-systems involved, the interdependence of the various life forms and the dramatic changes brought about by such a seemingly simple cause as a change in the balance of warm and cold sea currents.

Betty Smith

CANNA — June 1992

All along the coast from Ardnamurchan to Knoydart the Small Isles form an intriguing westward view. I had visited Rhum with its splendid rocky peaks, and Eigg of the strange Sgurr and singing sands, but had only touched on Canna when returning to Mallaig after a visit to Rhum in 1967. My memory was of a deep water harbour and of a green island inviting a visit. I had to wait 25 years for that visit but I was not disappointed.

Long and flat-topped, Canna rises to almost 700 feet at its highest point, Carn a’ Ghaill. It is cliff-girt and the shore is only easily attainable from above at the south-east corner, where the tidal island of Sanday is linked to Canna by a long wooden footbridge. The underlying rock is Tertiary basalt with fine columnar cliffs. The area of Compass Hill has strange magnetic properties. The annual rainfall is 40-60 inches and the soil is fertile.

Man has lived on Canna since very early times and there is evidence of Stone Age, Viking and Celtic settlement. A beautifully carved early Christian Cross showing beasts and horsemen stands in a field near the house. We found Viking graves in two different parts of the island in areas which must have been attractive for settlement, and on an exposed cliff edge we found the small remains of a nunnery of the Celtic Church.

The present population of Canna is very small, the traditional crofting community being represented by one extended family. It is understood that the National Trust for Scotland, to which the island belongs, hopes to increase the numbers living on the island, but this has not yet taken place and there appear to have been difficulties with incomers. Dr. John Lorne Campbell, who gifted Canna to the Trust, still lives in Canna House with his wife, Margaret Fay Shaw. Both are eminent Gaelic scholars and authors and Dr. Campbell is also an expert entomologist. They have collected a famous Celtic and Scottish library which has also been gifted to the Trust.

The island economy is agricultural, with hill sheep farming, cattle rearing and the growing of arable crops for winter feeding. Some lobster fishing also takes place.

Canna has been a bird sanctuary since 1938 with large breeding colonies of seabirds and an increasing number of woodland species following tree planting by Dr. Campbell. Several species of raptor and the elusive Corncrake also breed on the island.

Canna is not noted for its botany but a week's plant hunting will produce a long list and some rare and interesting species. Sizeable colonies of oyster plant on the shore were a memorable sight.

The only accommodation available on Canna is "Tighard", a house sleeping 10 let out weekly by the National Trust for Scotland and standing in a commanding position above the harbour. Tighard is well equipped and comfortable provided some of the party enjoy lighting coal fires and wrestling with "Bosky", the temperamental kitchen stove which heats the water. By the end of the week, we were vying for these jobs and well on top of Bosky!

There is no shop on the island so that some planning of supplies is needed and the party must be prepared to eat out of tins and packets for the week (and not mind if something is forgotten!). Some of our group exercised considerable ingenuity and we had 5-star food for a large part of the week, including a spectacular summer pudding. We followed the instructions of the Trust to pack supplies in strong cardboard boxes and polythene bags for the sea crossing. Anyone looking at us as we lined up on the pier at Mallaig to wait for the boat must have wondered at the nature of our visit with boxes labelled "Gordon's Gin" and "Smirnoff Vodka" well to the fore. (Actually, they contained bread!)

We were fortunate with weather and apart from one showery morning the only poor days were those of arrival and departure. This meant that we missed the views of the nearby islands which are a feature of the four and a half hour sail from Mallaig. However, this was more than compensated for by the spectacular views from Canna itself during the week, in particular of the Cuillins of Skye and the rocky ridges of Rhum seen from an unusual direction.

The party covered the whole island, from Garrisdale Point with its seal colonies in the north-west to the Puffin stacks of Sanday in the south-east, and everything in between. We saw birds, wild flowers and seals. We visited Viking graves and searched for wild goats. My abiding memory of a happy week, however, is the tantalising call of the Corncrake, which we never saw.

Mary Clarkson with Connie Stewart

"Crex-crex" on Canna

As one stepped out into the garden at "Tighard" one could hear the Cuckoo calling; at the foot of the garden the Corncrake's distinctive "crex-crex" rasping sound carried clearly every evening. A little further off, but still audible, Buzzards were mewing to one another as they circled above the high ground behind Kate's cottage.

The Buzzards could be seen and admired daily, the Cuckoo just once for a moment but the Corncrakes never! We tried to spot the Corncrake in the evening, we tried to find them early in the morning but they defied us. Their call was close at hand and just over the wall, but the birds remained hidden all week.

For easier bird watching we went to the cliffs and on rock stacks were Puffins standing shoulder to shoulder looking out to sea then launching themselves into space, little wings whirring madly and to land they spread their large orange webbed feet to act as “air brakes”.

On the steep, inaccessible sea cliffs Peregrines had nested and were possibly feeding young. The Raven family was on the wing and a white-tailed Sea Eagle flipped across from Rhum to Canna for a short visit. Young birds were all around – Wheatear hopped on to rocks, Common Sandpiper and Ringed Plover piped anxiously, Shelduck on the water and Willow Warbler in the trees. A successful year – perhaps for the Corncrake too.

M. Molly C. Woolgar

Plants on Canna

The two islands of Canna and Sanday are quite small (about 6 square miles *in toto*) and consist largely of hilly moorland, ringed by sea cliffs and raised beaches, which are only occasionally accessible from above. However, the underlying rock is volcanic so there are patches of basic grassland and the exposed cliffs are quite rich. There are also one or two beautiful white sandy beaches, some mud and sand around the sheltered harbour between Canna and Sanday, and one or two stony inlets to the south of Sanday. So there is a diversity of habitat giving rise to a plant list of over 400, of which we saw some 250 species during our stay.

There must once have been quite a lot of native woodland on the island, but this has been destroyed by farming and grazing, leaving only tiny remnants of Aspen (*Populus tremula*), Hazel (*Corylus avellana*), Rowan (*Sorbus aucuparia*) and Willows (*Salix* spp.) clinging to steep cliffs and riverside gorges. The areas of woodland round Canna House are all modern plantations, consisting largely of introduced species, including such ground flora as the large and handsome Pendulous Sedge (*Carex pendula*), and probably also Wood Sedge (*Carex sylvatica*).

A large part of Canna is covered in acid heath and bog; with Ling (*Calluna vulgaris*), Heathers (*Erica* spp.), Fescues, including *Festuca vivipara*, and Mat Grass (*Nardus stricta*) in the drier parts; and Cotton Grass (*Eriophorum angustifolium*), Bog Asphodel (*Narthecium ossifragum*), and Common Sundew (*Drosera rotundifolia*) in the wet patches. Some more basic streams and flushes provide suitable conditions for a number of interesting sedges, including the little Separate Sedge (*Carex dioica*) where the male and female flowers are held on separate spikes, and some unusual or western species such as Bog Pimpernel (*Anagallis tenella*), Black Bog Rush (*Schoenus nigricans*), and both the Common Butterwort (*Pinguicula vulgaris*), and the Pale Butterwort (*Pinguicula lusitanica*). While the steep sea-cliffs provide homes for a number of alpine species such as Goldenrod (*Solidago virgaurea*), Moss Campion (*Silene acaulis*) and Roseroot (*Sedum rosea*), not to mention a few Herons. (We were all a bit taken aback to see the sleek heads and long beaks peeking out from among the Roseroot).

Sanday is smaller, lower and more fertile, and the cliffs and inlets are altogether more accessible. Small quantities of Kidney Vetch (*Anthyllis vulneraria*), Common Centaury (*Centaureum erythraea*), Fairy Flax (*Linum catharticum*) and Wild Carrot (*Daucus carota*) could be found, along with the seed capsules of Spring Squill (*Scilla verna*), on short base-rich turf and rocky outcrops. There were some splendid displays of Northern Marsh Orchid (*Dactylorhiza purpurella*) in marshy areas, while Scots Lovage (*Ligusticum scoticum*) and Sea Spleenwort (*Asplenium maritimum*) could be found on the cliffs.

The most spectacular find however was the two large colonies of Oyster Plant (*Mertensia maritima*) on boulder-strewn inlets to the south of the island. I sent my plant list to Catriona Murray, the BSBI Recorder for Canna and she was particularly pleased with these records as she had only seen one plant during her last visit in 1984. In fact Oyster Plant was one of the “Scarce Plants” being surveyed by the Botanical Society of the British Isles over the last two years, so the up-to-date information was very timely.

Another confirmation of a “Scarce Plant” record was provided by the discovery of Thyme Broomrape (*Orobanche alba*) on basic cliffs to the north of the Castle, An Coroghon, on east Canna. This plant, which is parasitic on Thyme, is virtually confined to the extreme west coast of mainland Scotland and the Western Isles, with a few sites in Northern Ireland, Yorkshire and Cornwall. Even better was the discovery of Wood Bitter Vetch (*Vicia orobus*) above the bay to the south of the Castle, for this “Scarce Plant” had not been recorded in 1984.

Altogether, a week on Canna provides plenty of interest and some real excitement for a botanist.

J. Muscott

**EDINBURGH NATURAL HISTORY SOCIETY LIBRARY:
Computer Database**

The first major project using the Society’s new personal computer has been the creation of a library database. As the library is held at Donaldson’s School and members may find it rather inconvenient to visit, the database has been used to compile a list of all the book titles, under various subject categories. Copies of this list are available at winter meetings for members to refer to.

This article is in two parts, firstly, a description of the database and its facilities, and, secondly, how to use the list of book titles.

The database

The database comprises an index of all the books and journals held by the Society. Each item is held in the computer on a template form, as shown in the example below, the capitals identifying the template:

TITLE:	Mountain Flowers
AUTHOR:	Raven, J. & Walters, S.M.
COPY:	1
CATEGORY:	Botany
SUBJECT 1:	Montane
SUBJECT 2:	
PUBLISHER:	New Naturalist
EDITION NO:	
ENHS REFNO:	NN33 (1)

Each book is defined by the headings – CATEGORY, SUBJECT 1, and SUBJECT 2. The ENHS REFNO refers to the book’s location on the library shelves at Donaldson’s School.

There are nearly 700 titles held by the library. The main advantage of holding the library index in this manner is that the computer can be used to search for a particular subject or category, or combination of subjects, and it will list the appropriate books held by the library. Currently, the number of categories or subjects that can be used to search is 48, not including book title subjects. These subjects are split among the various category/subject headings as shown below. Two methods of retrieval (computerese for searching and finding a subject match) are available:

- (a) A particular subject word or phrase is typed into the computer and where it finds a match in the library database, it will list the books where this occurs. This is known as “searching” the database. Virtually any subject can be typed in, as the computer searches the book titles for a match as well as the subject definitions listed below.

(b) The other method of retrieval is called “querying the database”, and this allows a combination of subjects to be input, thus narrowing down the choice. The way this is achieved is that the computer displays a blank version of the form template, shown in capitals in the example above, and then required subjects are typed in as appropriate. The computer will then list the books found that conform exactly with the subjects typed in. To use this facility one needs to know which subjects can be used under which subject heading. This information is provided below.

The following is a list of subjects covered by the library under their headings:

CATEGORY:	SUBJECT 1:	SUBJECT 2:
Agriculture	Archaeology	Algae
Amphibia	Ethology	Biography
Birds	Fishing	Conifers
Botany	Flowering Plants	Edibility
Ecology	Fossils	Eggs
Fishes	Freshwater	Ferns
General Nat. Hist.	Fungi	Foreign
Geology	Littoral	Forestry
Invertebrates	Lower Plants	General Flora
Journals	LP Record	Illustrations
Mammals	Microscopes	Lichens
Marine	Montane	Lothian Guide
	Outdated	Mosses
	Photography	Nomenclature
	Raptors	Rare Plants
	Taxonomy	Regional Flora
	Trees	Regional Guide
	Seaweeds	
	Vegetation	

How to use the list

The list consists of a printout of all the book titles arranged under subject headings, in alphabetical order as mentioned above. To explain the layout of each book title entry, a typical example is shown below:

TITLE: Trees, Woods and Man	ENHS REFNO: NN32(1)
AUTHOR: Edlin, H.L.	PUBLISHER: New Naturalist

The ENHS REFNO refers to the book’s position on the library shelves and the (1) indicates that there is more than one copy and that this particular copy is number one. In the printout the TITLE, AUTHOR, etc. have been suppressed to save space. The following table shows the categories that the books have been listed under.

Category: Agriculture	“ Birds, General
“ Amphibia, Freshwater	“ Botany, Edibility
“ Birds, Eggs	“ Botany, Foreign
“ Birds, Foreign	“ Botany, Freshwater
“ Birds, Freshwater, Littoral	“ Botany, Fungi
“ Birds, Illustrations	“ Botany, General Flora
“ Birds, LP Record	“ Botany, Illustrations
“ Birds, Montane	“ Botany, Lothian Guide
“ Birds, Raptors	“ Botany, Lower Plants
“ Birds, Regional Guides	“ Botany, Nomenclature
“ Birds, Trees	“ Botany, Regional Flora

Category:	Botany, Montane	“	Geology, General
“	Botany, Outdated	“	Geology, Lothian Guide
“	Botany, Taxonomy	“	Geology, Regional Guide
“	Botany, Trees	“	Invertebrates, Fishing
“	Botany, Trees	“	Invertebrates, Flowering Plants
“	Botany, Vegetation	“	Invertebrates, Freshwater
“	Botany, General	“	Invertebrates, LP Record
“	Ecology	“	Invertebrates, Seaweeds
“	Fishes	“	Invertebrates, General
“	General Natural History, Archaeology	“	Journals, Fungi
“	General Natural History, Ethology	“	Journals, Outdated
“	General Natural History, Freshwater	“	Journals, General
“	General Natural History, Lothian Guide	“	Mammals, Deer
“	General Natural History, Microscopes	“	Mammals, Foreign
“	General Natural History, Outdated	“	Mammals, Fossils
“	General Natural History, Photography	“	Mammals, Outdated
“	General Natural History, Regional Guide	“	Marine, Fishing
“	General Natural History, Trees	“	Marine, Littoral
“	General Natural History, General	“	Marine, General

John Winham

THE GARDYLOO TRIP 1992

This year we sailed out of Leith Docks on Thursday, 3 September, a day of sunshine and excellent visibility, quite unexpected as it followed a period of dull, wet and often windy weather. On this occasion we travelled the summer route which meant that we sailed north-eastwards to a point almost due east of the Bell Rock lighthouse, in contrast to last year in April when we took the winter route south-eastwards to a point well out east of St. Abb’s Head.

Last year as we passed by Fidra, Craigleith and the Bass Rock, birds such as Gannets and Auks were seen in their thousands. Numbers like that were not to be seen (or expected) this time as we made our way between the Fife coast and the Isle of May. There were a lot of Gannets, parties of Guillemots and Razorbills, and even an odd few Puffins seen flying about or settled on the water, but the excitement for the bird watchers this time came from spotting the less common species.

Skuas were about, not in large numbers and all of the Arctic species, a few Manx Shearwaters were seen stiff-winging over the water, Little Gulls were reasonably numerous mixed in with groups of Kittiwakes and Terns, but Black Terns which occur fairly regularly at this time of year were not sighted.

Pipits and Swallows were seen far out from dry land, but we were much more surprised to have the company of a Bumblebee and a Red Admiral butterfly well out to sea.

Unfortunately as we had no expert on the Cetacea in our group, one (or maybe two) seen not far out from Leith were assumed to be Porpoises.

So, once again, favoured with good conditions, our party had a most enjoyable day on the briny as guests of Lothian Regional Council and the Master and crew of the M.V. Gardyloo.

Jimmy Stewart

NOTES ON NATURAL HISTORY 1992

Observations

<i>Key to contributors:</i>		GM	George McDougall	SL	Sheila Littlejohn
BC	Bill Clunie	MW	Margaret Watson	MC	Mary Clarkson
EF	Elizabeth Farquharson	MR	Mary Robertson	JG	Jean Galbraith
JW	John Winham	SR	Scott Robertson	LS	Leslie Scoular
SA	Sarah Adamson	JM	Jackie Muscott	FD	Frances Dunn
DA	David Adamson	ES	Eunice Smith	CR	Charles Rawcliffe

- 11/12/91 Three Crossbills, one a bright male, in conifers near the rockery, and about a dozen Redpolls feeding on birch in the Royal Botanic Garden. (RSPB Group)
- 2/ 1/92 Ten Shore Larks. Tynninghame. (BC)
- 11/ 2/92 Three Goosanders on the River Almond. (SR, MR)
- 12/ 2/92 One Greenshank, one Fulmar, one Short-Eared Owl. John Muir Country Park. (SR, MR)
- 15/ 2/92 One Waxwing in shrubs. Old railway near Silverknowes. (SR, MR)
- 16/ 2/92 Male American Wigeon. Lochore Country Park. (BC)
- 14/ 3/92 On a cold day, with a NW wind bringing sleet and snow showers, we observed a Queen Buff-tailed Bumble Bee near the Alpine House in RBG. (SR, MR)
- 4/ 4/92 Red Kite. West Saltoun. (BC)
- 5/ 4/92 Flowering beside the Tay downstream from Dunkeld were Yellow Star-of-Bethlehem (*Gagea lutea*), *Scilla sibirica* and *Erythronium dens-canis*. The last two were "garden-escapes". (NO 034420) (SA, DA, GM)
- 11/ 4/92 First Chiff-chaff heard at Baron's Haugh. Wood Stitchwort (*Stellaria nemorum*) seen. (ENHS meeting)
- 14/ 5/92 A dozen or so small green and black caterpillars (the caterpillars of the 6-spot Burnet moth), noted on their food plant – Birdsfoot Trefoil, growing on waste ground by Carriden foreshore, West Lothian. (JM)
- 16/ 5/92 Up to 14 Green Hairstreak butterflies seen near Killiecrankie during ENHS outing. (NN 903620) (SA, DA, GM)
- 19/ 5/92 13 Dotterel. Cairngorm. (BC)
- 27/ 5/92 Approximately ten spikes of Long-leaved Helleborine (*Cephalanthera longifolia*). Woodland, near Tobermory, Mull. (JW)
- 28/ 5/92 Quite a lot of Birdsfoot Trefoil with 6-spot Burnet moth caterpillars on waste ground by the sea, west of Bo'ness, and a small population of Hoary Cinquefoil (*Potentilla argentea*), one of Britain's scarce plants. There is an old record for this plant in the region of Binny Hill: it would be nice to refind it! (JM)
- 29/ 5/92 Four spikes of Bird's Nest Orchid (*Neottia nidus-avis*) found in Hopetoun Estate, under Beech. Last recorded in the area in 1978. (MR)
- 30/ 5/92 Wild Radish (*Raphanus raphanistrum*), cereal field, Echline, South Queensferry. (MR)
- 31/ 5/92 Water Figwort (*Scrophularia auriculata*). Bog Wood, Hopetoun Estate. Female flowers of Butterbur (*Petasites hybridus*) quite prolific this year. (JM, MR)
- 31/ 5/92 Clouded Yellow butterfly at Gartmorn Dam, Alloa (NS 910941). Another was seen on 16/8/92 at Glentress Forest (NT 285405). 1992 has been notable for the influx of this migratory species. (SA, DA, GM)

- 6/92 Observations during a hillwalking holiday based at Ullapool: Herd of wild goats; Dappled red deer fawn lying alone in a hollow in the hillside; Dotterel and nest at over 3,000 ft; *Artemisia norvegica* on its bare hilltop site; Greenshank by a loch shore; Great Sundew (*Drosera anglica*) with florets fully open – which is quite unusual. (JG, LS, FD, MC)
- 13/ 6/92 *Coprinus auricomus* on bonfire site in the grounds of Lauriston Castle. This “inkcap” fungus is a beautiful brick-red colour. (ES)
- 16/ 6/92 One spike of Bird’s Nest Orchid (*Neottia nidus-avis*). Old woodland strip beside Mill Burn (NT 1178). (MR)
- 20/ 6/92 From the shore at the lighthouse near Fortrose on the Black Isle, I saw a wonderful display of the famous Moray Firth dolphins. In the group nearer the shore the young ones, which were lighter in colour, could be seen joining in and jumping high in the air. We were told that about an hour after the tide began to flow was a good time to see them. (SL)
- 24/ 6/92 Small Balsam (*Impatiens parviflora*) on the NE side of Corstorphine Hill. (ES)
- 23-30/6/92 Several sightings of Small Pearl-bordered Fritillary butterflies in the Fauldhouse area, West Lothian. (JM)
- 27/ 6/92 A Lesser Whitethroat (*Sylvia curruca*) was singing, perched on a telephone wire, at Fala Dam (36/417620). (CR)
- 27/ 6/92 Purple Milk Vetch (*Astragalus danicus*), a nesting Fulmar and a Whitethroat. Wester Craiglockhart Hill. (MR)
- 28/ 6/92 Corn Bunting heard in cereal fields. “The Banks”, Hopetoun Estate. (MR)
- 7/92 Throughout July, Ringlet butterflies seen, sometimes in large numbers, along the edge of the Lammermuirs – from Stobshiel Reservoir in the west to Oldhamstocks in the east. (JM)
- 5/ 7/92 Quail calling. Blegbie, near Humbie. (BC)
- 12/ 7/92 Emerald Damselfly seen near Bara Lake, NW of Gifford, and again by a new pond close to Binning Wood on 13/7/92. (JM)
- 12/ 7/92 Ladybird larvae noted on low weeds in a barley field near Bara Wood. Noted again, on the ground in a field near Tynninghame on 13/7/92; on weeds in a potato field at Duddingston on 16/7/92 and on low vegetation by the old reservoir at Petershill on 18/7/92. (JM)
- 15/ 7/92 Large numbers of Puss moth caterpillars seen on willows by Linn Dean Water (SWT Reserve). These spectacular caterpillars are green, with flat pink heads (which look like the front of an underground train), and forked tails, from which long pink spines protrude when the creatures are frightened or annoyed. (JM, JW)
- 19/ 7/92 A Dark Green Fritillary butterfly seen on brambles at the side of a forestry track in Pressmennan Woods. (MW)
- 20/ 7/92 The Clouded Yellow butterfly made an appearance in the Lothians – on waste ground by the foreshore at Carriden, while another sighting occurred in Perthshire on 30/7/92 – in a cornfield near Ballinluig Bridge. (JM)
- 24/ 7/92 Four Common Sandpipers. Port Edgar, South Queensferry. (MR)
- 25/ 7/92 Yellow Wagtail. Skateraw. (BC)
- 29/ 7/92 A family group of Garden Warblers at Blackness Bay, where 18 Great Crested Grebes were observed on the water. (MR)
- 6/ 8/92 One Painted Lady, one Red Admiral, two Small Copper and several Tortoiseshell butterflies all feeding on Ragwort and Thistle. Port Edgar, South Queensferry. (MR)

- 10/ 8/92 Clouded Yellow butterfly (*Colias croceus*) seen at Tentsmuir. (ES)
- 10/ 8/92 A Clouded Yellow was seen perched on a flower head, briefly, before a child tried to catch it. West Foulshiels, West Lothian (29/971636, VC 84). (CR)
- 15/ 8/92 The following uncommon plants seen on ENHS meeting at Airthrey Estate (NS 807965): Italian Alder (*Alnus cordata*); Trailing St. John's Wort (*Hypericum humifusum*); Pale Persicaria (*Polygonum lapathifolium*); Field Madder (*Sherardia arvensis*); Fairy Foxglove (*Erinus alpinus*) on wall; Monk's-Hood (*Aconitum napellus*); Deadly Nightshade (*Atropa belladonna*); Water Fern (*Azolla filiculoides*), edge of pond, MacRobert Centre. (MR)
- 17/ 8/92 While walking on the coast path by the golf course, east of Dunbar, I heard an odd squawking sound behind me, and turning, saw a flurry of brown and yellow in the air about 30 metres away. A yellow bird broke loose briefly and turned out to be a bright yellow budgerigar. A hen Sparrowhawk very rapidly attacked again and this time seemed to have a secure hold on its prey as it vanished behind a rock outcrop. (MW)
- 18/ 8/92 One Swift seen at Almondell. (ENHS meeting)
- 21/ 8/92 Dog Stinkhorn (*Mutinus caninus*) in Ravelston House Wood. (EF)
- 22/ 8/92 The following plants seen on the Glen Tilt Trail, during the joint ENHS meeting with the Dundee Naturalists: Herb Paris (*Paris quadrifolia*), in fruit; Melancholy Thistle (*Cirsium heterophyllum*); Chickweed Wintergreen (*Trientalis europaea*); Wood Cudweed (*Gnaphalium sylvaticum*); Wild Basil (*Clinopodium vulgare*). (MR)
- 22/ 8/92 One Adder at Headshaw Burn, Berwickshire (VC 81, 36/483570). (CR)
- 23/ 8/92 Female Hen Harrier plus two Buzzards. Hule Moss. (BC)
- 29/ 8/92 *Melastiza scotica*. Coylum Bridge. Identified RBG. (EF)
- 3/ 9/92 *Boletus pseudosulphureus* at Borrowdale in the Lake District. This fungus belongs to the *B. erythropus* group. The large yellow fruit body has yellow pores which change bright blue when cut or bruised. The absence of red ends to the pores distinguishes it from *B. junquilleus*. (ES)
- 8/ 9/92 *Macrolepiota mastoidea* in coniferous shelterbelt, John Muir Country Park, Linkfield, Dunbar. Confirmed by Dr. R. Watling. (EF)
- 12/ 9/92 Kingfisher. Spylaw Park. (BC)
- 13/ 9/92 *Cordiceps ophioglossoides* in triangular birch wood by car park, Balerno. (EF)
- 13/ 9/92 Ate my lunch by a stream in the Lammermuirs watching spiders courting – exactly as described on the natural history programme. The smaller slender male plucks at the threads of his lady-love's web in a way that tells her that she has a gentleman caller, not a blundering dinner. Nevertheless he takes care to swing quickly away on a thread once he's had his way with her. (JM)
- 14/ 9/92 *Tricholoma pessundatum*. Loch an Eilean, Speyside. (EF)
- 14/ 9/92 A group of *Phaelepiota aurea* on a typical site – a nettle bed under trees – in Ravelston Wood. This is a large yellow fungus with a sheathed stout stalk and large yellow floppy ring. (ES)
- 18/ 9/92 *Lactarius uvidus* in roadside verge by Red Moss, Balerno. (EF)
- 18/ 9/92 Water Fern (*Azolla filiculoides*) noted on the lake at Kinneil House. It was the first time I had seen it since the cold winter of 1981/82 killed it on some of the ponds at Bawsinch. Later, I had a call from Helen Rowbotham, Countryside Ranger on the Union Canal announcing its presence there, near Park Farm, some 2 miles east of Linlithgow. I visited it in late October and found it forming sheets right across the Canal in places. If we have a mild winter, watch out for it! (JM)

- 29/ 9/92 *Pleurotus lignatilis*. Yellowcraig, by Dirleton. (EF)
- 1/10/92 *Russula pectinata*. Ravelston House Wood. (EF)
- 3/10/92 Many large fruiting bodies of *Oudemansiella mucida* (poached-egg fungus) on a dead tree in the grounds of Mellerstain House. (ES)
- 4/10/92 *Mycena pearsoniana*. Sanctuary Wood, Bonaly. Confirmed by Dr. R. Watling. (EF)
- 4/10/92 *Geastrum triplex* and *Geastrum rufescens* growing under pine in sandy soil at Tynninghame (NT 632807). Both found during ENHS outing. (SA, DA, GM)
- 11/10/92 Hen Sparrowhawk unsuccessfully attacked a Jay in trees near Trochry, Perthshire. When the Sparrowhawk lost interest and flew off, the Jay chased it but kept a prudent distance. Later, near the same spot, at least nine species and varieties of Ladybird were found clustered on old wooden fence posts opposite a small mixed wood. The Ladybirds included Striped, Cream-spot, Larch, Eyed, 7-spot and two varieties of 2-spot. There was no obvious reason for this assembly of species. (NN 978407) (SA, DA, GM)
- 17/10/92 *Lepiota alba*. Yellowcraig, by Dirleton. Confirmed by Dr. R. Watling. (EF)
- 17/10/92 Two Jack Snipe. Aberlady. (BC)
- 25/10/92 Eleven Pomarine Skuas. Hound Point. (BC)
- 7/11/92 At Aberlady Bay, a family group of 5 Whooper Swans, Long-tailed Ducks and Velvet Scoter clearly observed. One Ruff was picked out among the roosting waders. Field Madder (*Sherardia arvensis*) was noted on waste ground near Goose Green, Musselburgh. (MR)

The following contributions by Charles Rawcliffe have been grouped by location rather than inserted in chronological order.

Bawsinch SWT Reserve

- 13/10/91 One Kingfisher (*Alcedo atthis*)
- 16/10/92 One Bittern (*Botaurus stellaris*)
- 31/12/91 Three times a Carrion Crow (*Corvus corone*) was seen to fly about 70 yards from the shore and land on Duddingston Loch. On the water it flapped its wings vigorously and then flew back to the shore.
- 31/ 1/92 One Water Rail (*Rallus aquaticus*).
- 29/ 2/92 Two Lesser Black-backed Gulls on the Loch were my first migrants for the year (*Larus fuscus*).
- 13/ 5/92 Orange-tip butterflies were common, all males.
- 25/10/92 One Bittern (*Botaurus stellaris*).



Frog — Alison Bailey Smith

Dean Garden, Stockbridge

- 26/ 2/92 One Great Spotted Woodpecker (*Dendrocopus major*). Seen also on 27/2/92.
- 19/ 4/92 Two Tawny Owls (*Strix aluco*) and one Pipistrelle Bat, seen on an evening visit.
- 12/ 5/92 One Orange-tip, male, was seen.
- 4/11/92 A Grey Heron (*Ardea cinerea*) perched high in an Elm was being chivvied by three Carrion Crows (*Corvus corone*) and a Magpie (*Pica pica*).

(CR)

Forth Island Bird Counts 1992

This, the 34th year of the counts, must raise some questions in the minds of those Society members who were not even born when the first one was made. Apart from maintaining old traditions is there anything to be gained by them and is there anything new happening in the Forth seabird world? The avowed reason (in 1959) for counting the islands was to see (a) if there was any annual change in populations, (b) if there were, to find out why, and (c) to monitor these changes until the population reached an equilibrium. To these questions the simple answers are (a) yes there were, and are, annual changes, (b) we can postulate several reasons (including protection, fishing pressures, pollution and weather) as to why this is happening, and (c) perhaps in *another* 34 years we may find whether anything approaching an equilibrium is possible in a changing world.

The counts turn out to be a battle between the weather and the counters. We have about a four week "slot" from the last week in May when optimum numbers may be counted. This year we only just made it due to the almost continuous strong E/NE winds. Two of us got out to Craighleith on 22 June on the fourth attempt nearly a month after we struggled ashore, in a wild sea, on to Car Craig. Between times we visited Lamb and Fidra in thick fog reducing visibility to *ca* 30 yards in places and creating new counting problems.

The most interesting development was the discovery of the new Kittiwake and Shag colonies on Inchcolm. This island was last surveyed in 1987 and the feeling was that the Black Rat colony there would discourage more seabird colonisation. Presumably, however, Shags are able to defend their nests against rats and the Kittiwakes are probably safe on the steep cliffs. Elsewhere other colonists are the Cormorants which, with numbers down on Car Craig, were found to be nesting on Inchkeith and the Haystack. Their total numbers were down slightly in Inner Forth (203 nests, a drop of seven) and East Lothian (275 nests, a drop of 15) but counts were rather early and rather late, respectively, and just might have been on the low side. However, it again raises the interesting speculation that Cormorants have reached stage (c) above and at long last have peaked in Forth – and where do they go from here?

The overall Shag populations, on the other hand, after a spectacular increase of 20 per cent last year, might have been excused a pendulum swing decrease but overall there was a modest rise of some four per cent in East Lothian and perhaps similar in Inner Forth. With over 1,400 pairs in Inner Forth/East Lothian and as many more on the Isle of May it is interesting that this species continues to increase in numbers – an increase that started right at the beginning of the century some 90 years ago. The bird is penetrating further up the Forth and there is still Inchgarvie to colonise and perhaps the Railway Bridge, so there is still room for expansion.

The Kittiwake, too, seems to be more than holding its own. As well as the new Inchcolm colony of 38 nests (*c.* 20 were reported last year) we had a resurgence on Lamb doubling the numbers after last year's drop and also a 10 per cent increase on Inchkeith. News from Inchmickery this year (thanks to RSPB) is of low numbers of Sandwich and Common Terns but a pair of Razorbills bred and Puffins are prospecting. Possibly the most astonishing statistic there this year is of the 232 Eider Ducks who were sitting on eggs – testimony to the value of security and lack of disturbance enjoyed on this tiny island.

During the last two years our "basic" team has been augmented by a keen Fife contingent who have enabled us to improve coverage, notably this year on Inchcolm. The RSPB also have been taking an increased interest in their island reserves and are anxious to co-operate in getting full coverage of all of the Forth Islands with the possible exception of the difficult to count Bass Rock. The Isle of May is, of course, fully covered. Perhaps another 34 years is on the cards!

Forth Island seabird count 1992 (number of nest sites or breeding pairs, unless otherwise stated)

	Craig-leith	Lamb	Fidra	Eye-broughty	Inch-keith	Car-Craig	Inch-colm	Hay-stack	Inch-garvie	Inch-mickery
Sandwich Tern										122
Common Tern										98
Arctic Tern										1
Fulmar	141	5	191	0	564	0	163	0	115	24
Cormorant	89	186	0	0	14	187	0	2	0	0
Shag	665	318	255	0	23	23	21	3	0	36
Greater Bl-Back	3+	1	1							
Lesser Bl-Back	X	X	X	0	X	0	X	1	6	} 108
Herring Gull	X	X	X	X	X	45	X	23	140	
Kittiwake	X	223	489	0	678	0	38	0	0	0
Razorbills	46	40	72		38					1
Guillemots (birds)	X	c3250	245		52					
Puffin (birds)	X	c15	X		1600		c50			4-6
					sea/land		close in offshore			offshore

X = indicates birds were present but not counted.

Bob Smith

The Clouded Yellow Year

1992 has been a very good year for migrant butterflies in Scotland, particularly *The Clouded Yellow*, a thousand or so sightings being reported mainly in the west, and one reaching St. Kilda. This outstrips 1877. In the 114 years since, only in 17 years have any been seen. The reason seems to have been the SW winds across the Atlantic in the hot spring. Normally they would have crossed the Channel, a few reaching Scotland.

I saw one at Gyle in Edinburgh on 12 September, while one was seen on the East Lothian coast (31 July) and at Blackness (2 August). The total would have been higher but the frosts since September have affected the later broods.

I met the *Painted Lady* on the Lammermuirs on 16 August (NT 532630) at Tollcross (20 August) and in Kinghorn (30 August). The *Red Admiral* has been plentiful. I saw ten on Buddleja in Newington on 12 August and many elsewhere. The Almondel ranger told me she had had a *Peacock* this year. They breed in the west and seldom drift as far as Lothian. I've run into many *Tortoiseshells* but fewer than usual *Meadow Browns* and *Coppers*, though the St. Leonard's Railway on the hot evening of 10 June was a new site for me.

Perhaps the most exciting news has been the discovery in June by the Bawsinch ranger of only the second site in Lothian for the *Scottish Brown Argus* (*Artaxerxes*) in the East Lammermuir Deans Reserve (ten of them). There may well be other colonies waiting to be rediscovered in Lothian. The *Speckled Wood* has pushed north and west in Scotland (as have the *Holly Blue* and *Comma* in England).

Wilf Grubb

EXCURSIONS 1992

Key for excursions:

B – Botany	F – Ferns	G – General	Gr – Grasses	O – Ornithology
C – Conservation	F – Fungi	Ge – Geology	L – Lichens	S – Seaweeds

Day excursions

1992			Leader
18 Jan	Winter trees/buds, Botanic Garden	B	Mrs. M. Robertson Mrs. C. Stewart
22 Feb	Seacliff	S	Mr. D. Jones
7 Mar	Musselburgh Lagoons	O	Mr. C. Pountain
11 Apr	Baron's Haugh RSPB Reserve	O	Mr. R. Nisbet
25 Apr	Tentsmuir Nature Reserve	G	Miss J. Galbraith
2 May	Kirkton Glen, Balquidder	G	Mr. I. McCallum
9 May	Valleyfield Wood, Dunfermline	G	Mr. R. Smith
16/17 May	Pitlochry Weekend:		
16 May	Killiecrankie RSPB Reserve	O	Mr. M. Robertson
17 May	Linn of Tummel Circuit	G	Mr. D. Stevenson
23 May	Erraid Wood, Hillend	C	Mrs. E. Smith
	Milkhall Pond, Howgate	C	Mrs. E. Smith
30 May	The Hirsell, Berwickshire	O	Mr. J. Stewart
	Bass Rock Island Bird Count	O	Miss J. Wilcox
31 May	Lamb and Fidra Island Bird Count	O	Miss J. Wilcox
6 Jun	Eildon Hills Circuit	G	Mrs. V. McFarland
	Craigleith Island Bird Count	O	Miss J. Wilcox
13 Jun	Coldingham Loch	G	Mr. D.H. Jones
20 Jun	Murthly Estate	G	Mr. G. MacDougall
27 Jun	Meall nan Tarmachan, Ben Lawers	B	Mr. G. Swift
4 Jul	Selkirk Hill	B	Mrs. M. Little
11 Jul	Wester Kinloch Farm, Blairgowrie	C	Mr. I. Crawford
18 Jul	Bathgate Hills	Ge	Mr. W. Baird
25 Jul	Barns Ness to Skateraw	O	Mr. W. Clunie
1 Aug	Dere St. Towford to Chew Green	G	Mrs. C. Stewart
8 Aug	Bermuda to Lauderdale	G	Mr. D. Gill
15 Aug	Airthrey Estate and Dumyat	G	Mr. & Mrs. Dunn
22 Aug	The Tilt Trail	G	Mr. R. Brinklow
29 Aug	Redheugh, Berwickshire	G	Mrs. M. Watson
5 Sep	Aberlady Bay	OG	Ranger
12 Sep	Ardtrostan, Loch Eam	L	Mr. J. Winham
19 Sep	Carberry Tower, Fungus Foray	F	Mr. Adrian Newton
26 Sep	Dalkeith Old Woods, Fungus Foray	F	Dr. R. Watling

Evening excursions

13 May	Dalmeny Estate	B	Miss J. Muscott
20 May	Poet's Glen, Currie	G	Miss M. Woolgar
27 May	Roslin Glen	F	Miss H. McHaffie
3 Jun	Gullane Beach, Seashells		Dr. D. Peacock
10 Jun	Binnie Craig, West Lothian	B	Mr. D. Adamson
17 Jun	Red Moss, Balerno	Gr	Mr. D. Habeshaw
24 Jun	Corstorphine Hill	G	Mrs. E. Farquharson
1 Jul	Wester Craiglockhart Hill	G	Mrs. M. Robertson
8 Jul	Holyrood Park	G	SWT Ranger
15 Jul	Hillend to Swanston Circuit	G	Miss D. Mack
26 Aug	Ravelston House Wood	F	Mrs. E. Farquharson

EXCURSION REPORTS 1992

Royal Botanic Garden – 18 January

This was the first meeting of 1992 and a party of 15 met at the West Gate. The purpose was twofold; the more knowledgeable to walk with Connie Stewart to look at some of her favourite and more unusual trees, while the less experienced went with Mary Robertson on a tree identification exercise. Each party wrote up their experiences, starting with Mary:

It was an uninviting grey morning with a cold wind blowing. We studied our native deciduous trees, all lovely in winter, their bareness revealing their habits of growth and variety of silhouettes. Twigs are the best clue to identify trees when they stand leafless in winter, their buds often give clues to identification while the bark provides an instant means of naming certain trees and is a fascinating study in itself. As we proceeded, I tried to point out one salient feature for each tree to help recognition. Everyone, for example, knows the large sticky scales on the Horse Chestnut Buds. We noted:

- ☐ *Ash* has characteristic black suede buds in pairs on a stout knotty twig.
- ☐ *Silver Birch* has silvery peeling bark with black lozenge shapes and slender hanging twigs.
- ☐ *Cherry* has polished red bark marked by horizontal lenticels.
- ☐ *Lime* has red twigs and red buds with only two bud scales, one large, one small.
- ☐ *Alder* is easily identified by old cones remaining on the twigs as well as the new catkins.
- ☐ *Hazel* similarly has "lamb's tail" catkins and bright red stigmas protruding from the female buds, and is usually a straggling bush rather than a tree.
- ☐ *Hawthorn* twigs bear spines and have bright red buds.
- ☐ *Rowan* has pubescent buds on short stalks.
- ☐ *Beech* can be recognised by its smooth bark and its torpedo-shaped brown buds.
- ☐ *Sycamore* has hard green buds growing in pairs, which turn pink as they develop.
- ☐ *Oak* is a rugged tree with deeply fissured bark broken by horizontal cracks. Its buds are in terminal clusters.

And so on – we spent an enjoyable morning. Numerous squirrels were very active but we noticed few birds.

Connie's account follows:

Our group went clockwise round the Garden, looking at several conifers, an *Arbutus* (*Arbutus menziesii*), Walnut (*Juglans regia*), the Cryptogamic Garden, Medlar (*Mespilus germanica*), Sweet Chestnut (*Castanea sativa*), Pleached Lime (*Tilia x europaea*), Wild Service Tree (*Sorbus torminalis*) and Magnolia (*Magnolia sprengeri*). Witch Hazel (*Hamamelis mollis*) and Viburnum (*Viburnum x bodnantense*) were in bloom giving a delightful scent. The new Fossil Garden contains Palm (*Trachycarpus fortunei*), Ginkgo (*Ginkgo biloba*), Dawn Redwood (*Metasequoia glyptostroboides*) and Araucaria or Monkey Puzzle (*Araucaria araucana*) surrounding the fossil tree from Craigleith Quarry. By the glasshouses we saw, in silhouette, Eucalyptus (*Eucalyptus gunnii*), Cedar, Araucaria, Poplar, Elm and Beech. Near the pond were Willows, a young Tulip tree (*Liriodendron tulipifera*), a fine Ash and Poplar. Passing through the woodland garden we saw a small Chilean Fire Bush (*Embothrium coccineum*) then a fine Oak and a Noble Beech (*Nothofagus obliqua*) and so to the John Muir garden with Wellingtonia (*Sequoiadendron giganteum*) and Coast Redwood (*Sequoia sempervirens*).

Through the wood, a Persian Ironwood (*Parrotia persica*) was in flower with its dark red blossom beside the creamy green flowers of Cornelian Cherry (*Cornus mas*). Across the path

was a Japanese Alder (*Alnus japonica*) among lovely birches and a Weeping Beech (*Fagus sylvatica* "Pendula"). We returned to the West Gate past Limes, *Acers*, Horse Chestnuts and Poplars.

Mary Robertson & Connie Stewart

Baron's Haugh – 11 April

The last of the Society's "winter excursions" was to the RSPB's Baron's Haugh Reserve, near Motherwell. Although situated in a highly industrialised area, and within sound of the M74 motorway, the Reserve (on land previously owned by the Dalzell family) comprises over 100 hectares of woodlands, meadows, parklands, open water and marshland. There are paths round the water to three birdwatching hides and along an attractive stretch of the River Clyde walkway. The open water of the "Haugh" (a flooded meadow) is of international importance for wintering wildfowl, and in spring and autumn the Reserve is a haven for migrating birds. 150 bird species, over 300 plants and 19 mammal species have been recorded, together with many insects, such as butterflies and damselflies.

On the day of our visit, the weather was dull but mild, with reasonable visibility. Immediately on leaving the cars, the ornithologists were delighted to hear the unmistakable call of a Chiffchaff, the entomologists to see a Tortoiseshell Butterfly, and the botanists to find in the car park a young plant of Bristly Ox-Tongue (*Picris echioides*), Salad Burnet (*Sanguisorba minor*), Cowslip (*Primula veris*), Primrose (*Primula vulgaris*) and Whitlow Grass (*Erophila verna*).

From the hides, we had excellent views at close range of large numbers of Teal and of Shoveller, Gadwall, Wigeon and Little Grebe (with their distinctive trilling call), as well as the commoner Mallard, Tufted Duck, Goldeneye, Coot, Moorhen and Heron. A Mute Swan was on her nest and a party of Cormorants on an artificial island. Later on the walk we spotted Blue, Great and Long-tailed Tits (the latter within a few feet of the hide), Reed Bunting and Kestrel, and a very obliging Sparrowhawk perched for some time on top of a bush. On the river there were Goosander, two early Sand Martins and further on at Merryton (just outside the Reserve) a small party of Whooper Swans, identified by their yellow bills.

All round the Haugh and in the woods, spring flowers were coming into bloom, including Few-flowered Leek (*Allium paradoxum*), Ramsons (*Allium ursinum*), Sweet Ciciley (*Myrrhis odorata*), large patches of pink Lady's Smock (*Cardamine pratensis*), the delicate Wood Anemone (*Anemone nemorosa*), a stand of Garlic Mustard (*Alliaria petiolata*) and a single plant of Wood Stitchwort (*Stellaria nemorum*). In the old estate woodlands, there were many introduced ornamental and specimen trees, including Norway Maple (*Acer platanoides*), Irish Yew (*Taxus baccata* f. *fastigiata*) with its upswept branches, Butcher's Broom (*Ruscus aculeatus*), and Tulip Tree (*Liriodendron tulipifera*) with its unusual bark with "burrs" on it, four-angled leaf blades and flattened buds.

Our thanks are due to Steve, the RSPB seasonal warden, and to Campbell who helped with ornithological identifications, for making this such an enjoyable outing.

Margaret Nisbet, Mary Robertson, Molly Woolgar

Kirkton Glen, Balquhiddar (NN 534 208) – 2 May

On this mild May day of bright sunshine our party of 20, led by Iain McCallum, set off from Balquhiddar for a walk up Kirkton Glen. But before leaving the village we paid a short visit to Balquhiddar Church and to the churchyard where Rob Roy MacGregor, his wife and two of their five sons are buried. The present church, a nineteenth century building, holds interesting things from the past, among them the St. Angus Stone, a large stone slab which stands against the north wall; the carved figure on it is now barely discernible and is thought to date from about the eighth century. There is also a rough stone font, probably early medieval, and the 17th century bell from the old, ruined kirk nearby.

Kirkton is a wooded glen that climbs to about 1,500 feet. It is covered mainly by conifers, with Sitka Spruce and Larch predominating. Woodland flowers were in bloom – Lesser Celandine (*Ranunculus ficaria*), Pignut (*Conopodium majus*), Wood-sorrel (*Oxalis acetosella*), Pink Purslane (*Montia sibirica*) and Primroses (*Primula vulgaris*) – and by the burns we found Marsh Violet (*Viola palustris*) and Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*). Coltsfoot (*Tussilago farfara*) grew on the bare verges of the path and by an old stone bridge we noted Fairy Foxglove (*Erinus alpinus*), Maidenhair Spleenwort (*Asplenium trichomanes*) and Polypody (*Polypodium vulgare*).

One of the first flying objects we saw was not, as expected, a bird but a bat – a Pipistrelle which darted away at great speed through the trees. But birds there were and Siskin, Goldfinch, Chaffinch, Greenfinch, Robin, Wren and Great and Blue Tits were spotted.

As we neared the top of the glen we came out into open country. The hillside was scattered with boulders, some immense such as that known, jokingly, as Rob Roy's Putting Stone which is 40 feet high. A small loch, Lochan an Eireannaich, glinted in the sunshine and from the ridge we could see snow-streaked Ben More and Stob Binnein away to the west.

Here among the crags we found Purple Saxifrage (*Saxifraga oppositifolia*), Green Spleenwort (*Asplenium viride*), Alpine Saw-wort (*Saussurea alpina*) and Alpine Lady's-mantle (*Alchemilla alpina*). Hooded Crow, Kestrel and Buzzard were seen and the croak of a Raven heard. Here, too, was a change in climate. A snell wind was blowing and though we were still in bright sunshine the temperature was quite a few degrees below that on the lower, sheltered slopes.

We returned by the same sheltered slopes, appreciating the warmth. Our thanks to Iain McCallum for a splendid day.

Doris Mack

Valleyfield Wood – 9 May

On a fine sunny May morning a disappointingly small group of three were conducted through this remnant of ancient woodland which lines the valley of the Bluther Burn between Newmills and Shires Mill, some 10 km west of Dunfermline.

Mr. R. Smith, the Ranger in charge of the site, told us a bit about the history of the estate and how it had succumbed to economic pressures about the time of the last war. The house had been knocked down, the walled garden last used during wartime, and subsequently a large part of the estate had been built up in the expansion of the community of High Valleyfield. Fortunately, the wooded valley has been saved for conservation and is now owned by the Regional Authority whose plan is to manage the habitat to maintain the woodland flora and to attract birdlife and other fauna.

There are many fine specimen trees to be seen, including Evergreen Oak and Sweet Chestnut, but those which created the greatest impression on the day were the large, old Grey Poplars seen possibly at their best just coming into leaf. In a number of places the woodland floor was brightly coloured with dense stands of Bluebells (*Hyacinthoides non-scripta*) and a variety of other plants were in flower. A colony of the pale green Wood Melick (*Melica uniflora*) was pointed out as being rather uncommon.

For the birdwatcher the wood normally holds seven species of warbler, Sedge, Grasshopper, Whitethroat, Garden, Blackcap, Willow and Chiffchaff, but this early in the season only the last three were heard in song. Also making their presence known aurally were Great Spotted and Green Woodpeckers. The resident Kingfisher and Dipper were not seen, but by the stream some excellent views of the lovely Grey Wagtail afforded adequate compensation.

Lunch was taken by the shore overlooking Torry Bay but the state of the tide made wader watching quite unprofitable. Afterwards a short walk was taken along the shoreline past a neighbouring walled estate, part of which our guide expected the Region to take over to make

into another conservation area, with a planned bird hide overlooking the bay.

Before ending our outing we switched back from natural to human history, spending an interesting half-hour studying the inscriptions on the gravestones in an old churchyard nearby.

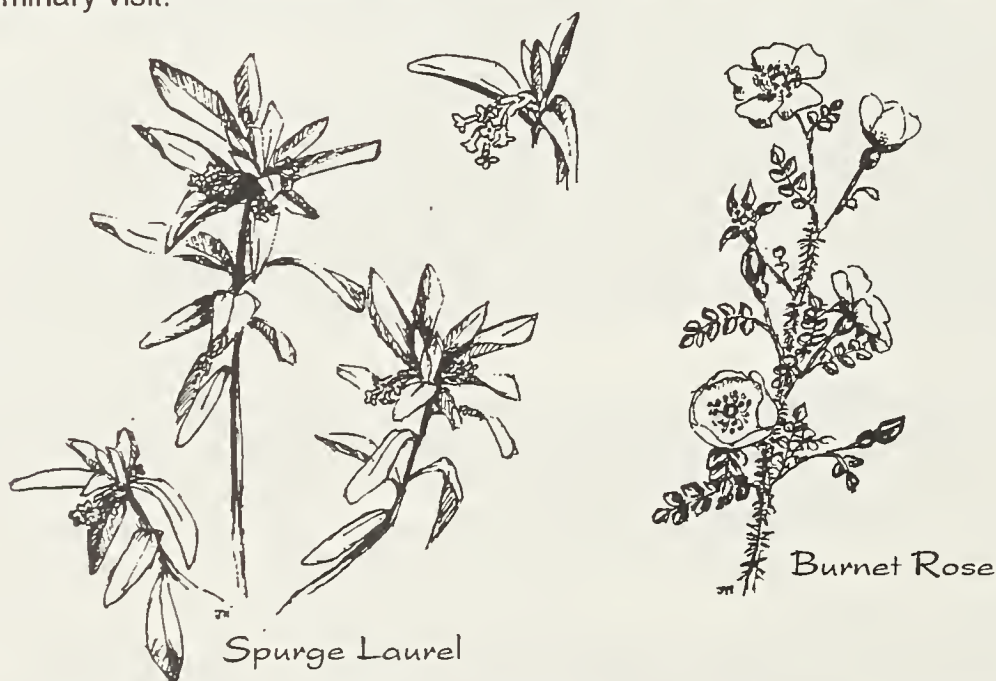
Jimmy Stewart

A Walk to Hound Point, Dalmeny – 13 May

Around 20 people gathered on a pleasant spring evening for the walk from South Queensferry to Hound Point. The path passes through the woodlands of Dalmeny Park, but a number of forays were made to the seashore at Whitehouse Point and Peatdraught Bay as well as at Hound Point. The limited stretch of sandy shoreline in this area (a rare habitat in West Lothian) has some similarities with Aberlady – so the total plant list, including woodland species, was around 140, some of them West Lothian rarities.

Rocks near Whitehouse Point revealed a few plants of what is now officially known as Heath Pearlwort (*Sagina subulata*), though I prefer the alternative name of Awl-leaved Pearlwort which refers to the very long awns on the end of the small succulent leaves. This plant is also distinguished from the common Mossy Pearlwort (*Sagina procumbens*) by its relatively large petals. Also present were Thrift or Sea Pink (*Armeria maritima*), Buckshorn Plantain (*Plantago coronopus*), the only Plantain with cut leaves, Early Hair-grass (*Aira praecox*), which at 2-3 inches must be one of our smallest grasses, and Parsley-Piert (*Aphanes* sp.), a tiny green member of the Rose Family.

A more typical rose, to be found at Peatdraught Bay is the Burnet or Scottish Rose (*Rosa pimpinellifolia*), which is distinguished by its stems which are thickly covered with slender prickles and bristles, its creamy-white flowers and black hips. Other sand-dune plants here and at Hound Point include Lesser Meadow-rue (*Thalictrum minus*), Rest Harrow (*Ononis repens*), Cowslips (*Primula verum*), and very stunted forms of Corn Salad/Lamb's Lettuce (*Valerianella locusta*) and Early Forget-me-not (*Myosotis ramossissima*). David Adamson was able to point out a small colony of the strange and magical little fern Moonwort (*Botrychium lunaria*) which I had missed on my preliminary visit.



There was a considerable amount of Chickweed crawling about on the sands. I had passed over it at first, then remembered remarks Alan Silverside had made at a recent Botany of the Lothians meeting. So I looked at the plant more closely and soon realised it was not the ordinary Chickweed (*Stellaria media*), but a smaller, paler green plant with very tiny petals – the Lesser Chickweed (*Stellaria pallida*) – which also grows at Aberlady Bay.

Woodland interest included Wall Lettuce (*Mycelis muralis*), duly growing on an old wall at the start of the walk, and the shrub, Spurge Laurel (*Daphne laureola*). This plant, which has glossy leaves and creamy flowers, is not native to Scotland and must have been introduced in the old Policy Woodlands. However, it seems to like its new surroundings, and has spread into the sand dunes. Like many of the other plants mentioned it likes the light calcareous soil.

A new oil pipeline was being laid to the terminal in the Firth of Forth, and a swathe had been cut through the woodland, but fortunately the sands seemed largely unscathed.

Birds seen or heard included an assortment of common woodland/garden birds, a variety of Warblers and Tits, and the Green Woodpecker or Yaffle (named after its laughing call), while out at sea were Gulls, Sandwich Terns and some Red-breasted Mergansers.

It was too late in the day for butterflies, but Jim Stewart tracked down the Sand Dune or Wolf Spider (*Arctosa perita*).

A pleasant evening, with the leader, nose to the ground as usual, ending up like the Duke of Plaza-toro, leading from the rear!

Jackie Muscott

Pitlochry Weekend – 16-17 May

RSPB Killiecrankie Reserve

On the first excursion of the weekend the warden of the Reserve led us through various types of habitat – fields, woodland, heather moorland, roadside – at various altitudes. The initial walk along the quiet country road brought to view several plants – Cuckoo flower or Lady's Smock (*Cardamine pratensis*), Primrose (*Primula vulgaris*), Wood Horsetail (*Equisetum sylvaticum*), Spring Sedge (*Carex caryophyllea*) and Buckler Fern (*Dryopteris* family).

A field was now reached. At the point where we entered it there was a very extensive patch of Lady's Smock. There now began a gradual descent (apart from a brief uphill burst) across the field to the deciduous woodland above the River Garry. Crossing the field, there was the most beautiful and extensive view across the valley to Beinn a Ghlo and Ben Vrackie with Blair Atholl seen later on. It was so clear with such marvellous colours. A promising start to the day, with high expectations that there would be much of interest at every turn of the route. Whilst still in the area we had the most tantalising experience of hearing several birds – Redstart, Blue Tit, Curlew, Pied Flycatcher – but not seeing them, however much we peered into the woodland with our binoculars. However, others in the party did see Buzzards and Great Tits. Roe Deer were heard barking. Of particular note were Marsh Violet (*Viola palustris*) in the wrong place and two colours (white and pink) of Wood Anemone (*Anemone nemorosa*). Other plants were Parsley Piert (*Aphanes arvensis*), Sheep's Sorrel (*Rumex acetosella*), Early Forget-me-not (*Myosotis ramosissima*) and Stitchwort (*Stellaria* family) in bud. Whitlow grass (*Erophila verna*), Field Woodrush, also known as Good Friday Grass (*Luzula campestris*) and Spring Sedge (*Carex caryophyllea*) were also found. To add interest a Flame Carpet moth, Red Velvet mite and four Green Hairstreak butterflies were seen. From the field there was evidence of Oak tree replanting six years ago – ideally suited for the elusive Pied Flycatcher.

On entering the wood from the field a very picturesque little spot with a burn trickling gently through the woods below was traversed. Now, the descent became a bit trickier and steeper along twisting, narrow woodland paths, lined with colourful banks of Primrose and Wood Anemone. All around us were Oak, Birch and Hazel. Once the bottom path near the river was reached we stayed on the level for a little bit until the time came to climb up a zigzag path to the hilltop through first of all the rest of the riverside wood. Again, there was much of botanical interest, including a rich variety of ferns – Oak (*Gymnocarpium dryopteris*), Beech (*Phegopteris connectilis*) (these two against a cliff face), Hard Fern (including some curled up) (*Blechnum spicant*), Lemon-scented Fern (*Oreopteris limbosperma*), Male Fern (*Dryopteris filix-mas*) and Polypody (*Polypodium vulgare*). Wild flowers seen included Bugle (*Ajuga reptans*), Common Dog

Violet (*Viola riviniana*), Goldilocks Buttercup (*Ranunculus auricomus*), Ivy-leaved Speedwell (*Veronica hederifolia*), Wood Melick (*Melica uniflora*), Dog's Mercury (*Mercurialis perennis*), Woodruff (*Galium odoratum*), Early Purple Orchid (*Orchis mascula*), Bitter Vetch(ling) (*Lathyrus montanus*) and Field Woodrush (*Luzula campestris*). Wood Sedge (*Carex sylvatica*) was also seen. Bullfinches and a Blue Tit were sighted. A Long Horn beetle was spotted.

Reaching the viewpoint at the top of the wood, my enjoyment of the outlook over the Garry Bridge was followed eventually after turning round by the thrilling view of a Pied Flycatcher. It was the highlight of the walk and especially fascinating as it took some time to locate the bird after hearing it. But when spotted it stayed with us for some time, flitting from branch to branch before vanishing. It was observed in an area of oak tree planting.

The walk now continued to the edge of the wood, then through a second field to Fonvuick on the road we had left earlier on. A Buzzard was seen and also a Red Squirrel. Marsh Marigold (*Caltha palustris*), Marsh Violet (*Viola palustris*), Wood Sorrel (*Oxalis acetosella*) and Three-veined Sandwort (*Moehringia trinervia*) were found. This last one was growing below a Bird Cherry. We came across a Mallow moth.

Now began a really steep ascent below lofty, magnificent crags through a larch wood. From the numerous hairpin bends of the path more distinct and splendid views towards Loch Faskally and Ben Vrackie and Beinn a Ghlo appeared. An interesting nook was passed where Primrose, Cowslip (*Primula veris*) and the Primrose-Cowslip hybrid (*Primula x polyantha*) were growing next to each other under the lee of a cliff. Wood Vetch (*Vicia sylvatica*) was thriving. A Willow Warbler appeared. Some of the trees had developed in the most extraordinary way with branches and trunk at odd angles. The branch of one tree almost seemed to follow the ground closely before suddenly shooting upwards, after having given rise to a vertical branch. Another tree seemed to sprout from the cliff. This one had a flower head. A sudden sharp bend in the path led us leftwards through a gap in the wooded hillside. What surprises lay ahead!

Not long after this the open moorland was reached with the tree line continuing up the slope on our left. After crossing a burn, we stepped out along the ascending path until we came to the ruins of a croft. This was Corhulichan. Little is known about its history, but the warden pointed out some ancillary structures – pigsties, a dry kiln and a lime kiln down the slope near the burn. The burn would have supplied water for the holding. On its other side the tree line began to curl round the slope, away from us. The ground round about the building revealed more plants including Petty Whin (*Genista anglica*) and Parsley Fern (*Cryptogramma crispa*). Behind the croft on its own stood a superb Horse Chestnut. At this point a few years ago, one would have had to turn back and return the same way but now we were able to continue down the other side to make a circular walk.

Departing from the ruined croft, a short climb took us across the moorland to the highest point. On the way, an absorbing few minutes was spent studying a plain caterpillar, with a brown back and orange spots and a furry one with a very trendy style of black and white bushy hair tufts. Very spectacular! Looking back the way we had come a breathtaking panoramic view of Loch Faskally, Ben Vrackie and Ballinluig opened up below us. The rest of the walk was downhill across the moor at first. Excitement gripped the party again when a Tree Pipit was seen diving above the trees as we approached birch woodland – a most memorable experience.

The upland field was reached after an easy stroll through the wood and from here the group was rewarded with a fine view of Blair Atholl and the Castle.

After skirting a couple of fields, the path led us down through a gently sloping grassy dry gully at the end of which the final wood of silver birch was reached. This section was very steep and muddy, requiring much care in descending. But it was so attractive that one wouldn't have wished to hurry it. On each side of the path there were botanically rich, wet areas. These were calcareous flushes. Here we found Yellow Mountain Saxifrage (*Saxifraga aizoides*). Once the bottom of the slope was reached, a gentle amble along a cart track brought us back to the

starting point at Balrobbie. Bird Cherry and Gean were passed, as well as a few fenced off areas. The idea is to keep these areas free from livestock and rabbit and hare grazing to enable natural regeneration to take place. No threat is envisaged from Roe Deer as they are not interested in leaping into such small areas.

Back at base there was a perfect ending when a Small Tortoiseshell butterfly was seen. It had been an extremely pleasant day, favoured by very good weather conditions.

Roddy Clark

Linn of Tummel Circuit

The second day of our Pitlochry weekend was spent at the Linn of Tummel under the expert guidance of Duncan Stevenson, whose full title, so he told us, is National Trust Ranger/Naturalist for the A9 properties!

Again, the weather looked favourably upon us and the sun shone down from a clear blue sky. We congregated at the Garry Bridge, where we were shown a plan of the Reserve and the route we were to take. The property was presented to the National Trust in 1944 by the late Dr. G.F. Barbour of Bonskeid.

First, we walked along the south bank of the River Garry on what was once the main road through the Pass of Killiecrankie. On reaching a bridge we walked over half way and looked down into the deep, dark water beneath. A Dipper darted under the bridge and flew up river. Killiecrankie means, in Gaelic, "the wood of the shimmering trees" and there are still Aspen growing on the banks.

Retracing our steps we followed a path under the new Garry Bridge and along the Beech fringed banks of the river, finding huge clumps of Greater Woodrush (*Luzula sylvatica*) and carpets of Wood Anemones (*Anemone nemorosa*). A short detour onto a shingle bed afforded views up and down the river and the first sighting of Ramsons (*Allium ursinum*) and a large bed of Spearmint (*Mentha spicata*).

It was not long till we came to the Queen's View at the junction of the Rivers Garry and Tummel. This was a favourite stopping point for Queen Victoria on her journeys through the Highlands. On the Tummel, just before it reaches the junction, are the spectacular Falls which end in the Linn or Deep Pool. Before the hydroelectric scheme at Pitlochry built a dam, forming Loch Faskally, the Falls were much higher and more dramatic but they are still a beautiful sight. Beside them is a man-made fish-ladder or fish-pass, cut out of the rock in 1910, to facilitate the passage of the salmon up river to spawn and very necessary when the Falls were steeper. Across the ladder is a new, very sturdy bridge built by the Trust Rangers last year after a flash flood swept the old one away.

Our way now lay along the east bank of the River Tummel in lovely deciduous woods, mainly Beech, Birch, Oak and Alder. Above the Falls, we left the track to explore some shallow pools where Tadpoles, Smooth Newts and Fresh-water Mussels were based. We found the first two creatures and huge shells, empty unfortunately, of mussels.

Just before reaching Coronation Bridge, built to commemorate the accession of George V, we saw a spike of Early Purple Orchid (*Orchis mascula*). We crossed the bridge which marked the limit of the Trust's property to have lunch beside the water.

In the afternoon we recrossed the bridge and continued walking up river. A Crossbill was heard and some people were fortunate enough to see it. The opposite bank of the river was clothed with Silver Birches, looking so fresh and delicate in their spring green.

The path led uphill and then turned back so that now we were following the river downstream but at a higher level. The trees were different, with conifers predominating – Norway Spruce, Western Hemlock, Douglas Firs (some very large) and Scots Pine. As the day was warm, we stopped and sat down, some in shade and some in patches of sunshine. Back on our

feet, in a damp place we saw the fungus, *Mitula paludosa*, which looks like a little yellow-headed matchstick. As we neared the end of the route, we came to an expanse of open ground, where it was explained that in order to encourage ground cover, such as Blaeberry (*Vaccinium myrtillus*), Dog's Mercury (*Mercurialis perennis*) and Ground Ivy (*Glechoma hederifolia*), the self-seeded saplings of Sycamore and Beech had been removed. Further on among some new plantings of Oak, Wild Cherry, Ash and Hazel, were some large Sycamore stumps. In the autumn, these are drilled and crystalline herbicide is injected into the holes when the sap is falling.

Right at the end of the walk, we made a detour to see the gable end of a building – all that remains of Coillebhrochain where Robert the Bruce is said to have received food and shelter after the Battle of Methven in 1306. It was hard to think that the area had once rung to the cries of battle when we had experienced an atmosphere of tranquil beauty broken only by the cries of birds and the voices of 14 delighted members of the ENHS.

J. Lyburn

Poets Glen – 20 May

“In my bed I can view 30 miles to the north
The Ships as they pass and repass on the Forth
In my green I can stand and nine counties survey
Then where is the view that can match that, I pray?”

So wrote Janie Thomson, the local weaver poet of Currie, at the end of the eighteenth century. A group of 16 Nats one evening in May could certainly make out the hills of Fife across the Forth but more distant mountains were hidden by a heat haze.

The woodland strip by the Kinleith Burn, a tributary of the Water of Leith, was carpeted with Bluebells (*Hyacinthoides non-scripta*), Ramsons (*Allium ursinum*), Woodruff (*Galium odorata*) and Pink Campion (*Silene dioica*), Horse Chestnut (*Aesculus hippocastanum*) and Bird Cherry (*Prunus padus*) were in flower, while Hawthorn (*Crataegus monogyna*) and Elder (*Sambucus nigra*) were still in bud. On the pond in the grounds of the Glenburn Hotel Moorhens were nesting. A pleasant area, attractive in spring and summer and of interest historically too.

M. Molly C. Woolgar

Erraid Wood and Milkhall Pond SWT Reserves – 23 May

Some dozen or so enthusiastic “gardener” members, armed with an assortment of tools and stout gloves, attacked the “nettle-bed” at Erraid in the forenoon. A goodly area was cleared to a greater or lesser extent of Stinging Nettles and Sticky Willie, and the Dockens were given a fright. The combined efforts of the group were greatly appreciated by the convenor. The cleared area will now be planted up with suitable native wild flowers to attract bees, butterflies and other insects.

The afternoon outing, by contrast, was a more leisurely affair. Using the disused railway line as a concealed approach, to avoid disturbing the pair of Tufted Duck on Milkhall Reservoir, the members had explained to them the changes that SWT management had made. The east bank of the reservoir is fast becoming a woodland of native, mainly broad-leaved species. In place of a soggy area caused by the broken, underground outflow pipe is a series of ponds, one overflowing into the next and the last overflowing into the Lead Burn. The water source for the main reservoir is by underground springs. The old outflow pipe has been blocked off and the dam at the north end breached to give a natural overflow to the top pond. Each pond is slightly different. The top one has shallow, marshy areas with a rich variety of marsh plants, while the middle pond is covered with *Potamogeton natans*, a floating-leaved pond-weed. Tadpoles were seen in the middle pond. Toads, Frogs and Smooth Newts all breed at Milkhall.

The middle pond also gave one sharp-eyed member the distinction of recording the first odonate of the season, the Large Red Damselfly, *Pyrrosoma nymphula*. Several cast nymphal

skins, the exuviae, were found still clinging to the surrounding emergent vegetation and two or three recently emerged insects were perched nearby. Three other species of damselfly and two dragonfly species also breed on the reserve.

A scramble back up to the disused railway line led us to the Fairbairn Wood on the banks of the Lead Burn. Dr. Fairbairn, a former President of the Edinburgh Natural History Society and an ex-forester, planted this mixed woodland some 25 years ago. The farmer who owns the land wanted the wood maintained after Dr. Fairbairn's death. The Milkhall Management Committee have gladly taken on this responsibility and also that of an adjacent, younger plantation started by the farmer.

Members who had known Milkhall when the SWT first acquired it were surprised and delighted by the changes. Several hope to return, in particular to do some botanical recording.

Betty Smith

The Hirsal – 30 May

Nineteen members turned up on an overcast day, led by Jimmy Stewart. The day's activity consisted of two short circuitous walks with a break between them for a picnic by the lake.

In the forenoon we followed a route around the lake and into Dundock Wood where, despite the overcast conditions, the Azaleas and Rhododendrons presented a bright and colourful spectacle. Birdsong in the wood was less noticeable than had been expected, and the main interest came from snatches of Blackcap and from a Chiffchaff that loudly proclaimed its presence.

Before that, however, we had watched and listened to a Sedge Warbler, fully exposed and singing mightily from a perch on a Hawthorn bush. Then from a hide on the south side of the lake a variety of waterfowl was seen, the most interesting of which was a group of about 60 Goosanders, the majority being brilliant males, their white breasts and flanks contrasting strongly with their dark heads.

Rounding the north edge of the lake further examination of the birds on the water revealed a pair of Ruddy Ducks which turned out to be the highlight of the day as they were a new species or "lifer" to some of the party. This small North American species has, over the past 30 years, gradually spread throughout Britain from breeding stock at Slimbridge. The mainly chestnut male with his cocked-up tail, white face patch and bright blue bill was a delight to the eye.

The afternoon walk took us past Hirsal House, across the Leet Water, down the east side of the stream, and back by the gardens. We had hoped to get sight or sound of Pied Flycatchers and maybe Marsh Tits, but again the birds were not co-operating and we had to be satisfied with the more common species. As we made our way back through the gardens, which were in very good order and highly colourful, we saw that the Swift nest boxes set under the house window sills were still in use after some 40 years. In his book, *The Birdman*, Henry Douglas-Home has quite a lot to say about the Hirsal Swifts. He was the first person to get Swifts to breed in nest boxes, and his many years studying them produced some very interesting facts, not least his theory, apparently backed by radar confirmation, that in bad weather when insect life is scarce, parent birds will fly as far as the Baltic to collect food.

Despite the rather low activity levels of most birds on this day, a total of 37 species were seen or heard during the outing which lasted about five hours.

Jimmy Stewart

Roslin Glen – 27 May

Fifteen members parked at Roslyn Chapel and walked down into the glen passing through the arch under the old castle. In a meadow by the river we looked first at the Common Horsetail (*Equisetum arvense*) and then at an uncommon evergreen horsetail – the Dutch Rush

(*Equisetum hyemale*). This species was utilised instead of sandpaper in medieval times and was used for polishing flute holes, for example.

Continuing downstream into the woods we saw the delicate fronds of the Lady Fern (*Athyrium filix-femina*) and contrasted the frond division of the less frilly Male Fern (*Dryopteris filix-mas*) with the more divided Broad Buckler Fern (*Dryopteris dilatata*). We also noticed the pale scales on the Male Fern and the dark stripe on the Broad Buckler scales. Further along the path we saw some Great Horsetail (*Equisetum telmateia*) still comparatively small. When fully expanded the shoots can be two metres high with regular drooping side branches on each node. We found some Hard Fern (*Blechnum spicant*) with last year's vegetative fronds still around the crown, growing flat on the ground. The new upright fertile fronds were just expanding and were more slender altogether.

There were several varieties of the Golden-scaled Male Fern (*Dryopteris affinis* spp.) and we observed that these plants had more golden scales than the ordinary Male Fern, were later in expanding and had a marked "black spot" where the side branch, the pinna, meets the main stem, the rachis.

We went down along by the river and then climbed up steeply to return by the top path. We passed some Bracken (*Pteridium aquilinum*) – one fern we all knew. The last species we looked at by the path near the end was the Soft Shield Fern (*Polystichum setiferum*) which was probably introduced. It showed the typical form of the *Polystichum* genus with each leaflet, or pinnule, shaped like a little mitten with a thumb. As this was *Polystichum setiferum*, each pinnule was on a short stalk. The other species present, in calcareous places, within the rocky glen, is Hard Shield Fern (*Polystichum aculeatum*) which has shinier, harsher leaves and the pinnules are unstalked. We did not see the species on this occasion.

Heather McHaffie

Coldingham Loch – 13 June

Thanks to the owners, Dr. E.J. & Mrs. T. Wise, we were allowed to circumnavigate the loch taking care not to disturb or interfere with the five boats fishing the loch and some half-dozen people fishing by wading just offshore. The loch is very rich, biologically speaking, and the west end is marshy, with a barricade of Reed Grass cutting off a small and shallow pool which has a wide variety of submerged and emergent vegetation, although virtually inaccessible. The surrounding shore areas are botanically interesting while waterfowl breed among the vegetation of the shallows, juvenile Coots were seen and Moorhen and Mallard were present as were Mute Swans with cygnets. A cock Reed Bunting was calling and a possible Sedge Warbler was heard briefly. Evidence of Fox was seen, rabbits were plentiful, while access to the ground overlooking the cliffs (bird-breeding) is available from the surroundings of the loch. Red Admiral butterflies were about and possibly (almost certainly) Painted Lady.

Other plants noted were Bog Bean (*Menyanthes trifoliata*), Yellow Water Lily (*Nymphaea lutea*) with Common Spike Rush (*Eleocharis palustris*) and two species of *Potamogeton*, *P. lucens* and *P. natans*. Several invertebrates were also recorded.

David Jones

Threipmuir, Balerno – 17 June

This sunny, warm evening, only slightly marred by the midges, was spent at Threipmuir learning about grasses, their construction and the characteristics that help with identification. In all, 24 different grasses and two rushes were examined.

Our group was under the enthusiastic guidance of David Habeshaw, who had kindly agreed to stand in for Graham Swift who could not be with us that evening. Our thanks are due to him for a very interesting and enjoyable outing.

Doris Mack

Meall nan Tarmachan (NN 596 393) – 27 June

Undaunted and undampened by the previous outing to Meall nan Tarmachan, 15 stalwart members met four years later for a hopefully drier day. True to form, rain greeted us but had cleared by lunch time – held at the south-west corner of Lochan nan Lairige reservoir, where the aptly named Moonwort (*Botrychium lunaria*) was still to be found.

The day was programmed as a difficult hill walk and was led by Graham Swift. In fact, the cliff ledges of Creag an Lochain were our destination, within one mile of the Visitor Centre. While not the richest area for the rare alpine, in a mountain range which supports the finest of our mountain flora, with over 60 per cent of Britain's mountain plants, the ledges nevertheless offered a rewarding plant list for midsummer in an area where spring-flowering plants predominate. Over 30 flowering plants were recorded, as well as numerous grasses, sedges, ferns and the rare clubmosses. Its richness derives from the lime-rich, crumbly mica-schist rock. The rock is soft enough to allow soil to form quickly in an extreme climate. Here is the true mountain flora – we saw Alpine Meadow Rue (*Thalictrum alpinum*), Alpine Mouse-ear (*Cerastium alpinum*), Sibbaldia (*Sibbaldia procumbens*) and Mountain Everlasting (*Antennaria dioica*) – all diminutive post-glacial survivors, able to colonise the bare rock detritus in an open habitat left behind after the ice retreated, and where a similar habitat occurs on these cliff ledges of the Breadalbane mountain range. The lime-rich soil on these mountain slopes is constantly enriched by soil erosion and drainage water from above, preventing the peat formation caused by leaching of nutrients prevalent on lower slopes. For a mountain range, the easterly situation of Ben Lawers ensures a comparatively low rainfall (!). Inaccessibility to sheep and deer is a secondary factor in their survival. The tall herbs to be seen, such as the Globe Flower (*Trollius europaeus*) and Wood Cranesbill (*Geranium sylvaticum*) would be more prolific if not grazed, but then these, and tall growing grasses would crowd out the rarer arctic-alpines.

As well as their significant history, two of the above-named plants have interesting name derivations. The tiny, 3-leaved and 3-toothed Sibbaldia is named after Sir Robert Sibbald, publisher of the first account of Scottish plants in a Natural History of Scotland in 1684. The male flowers of the greyish-looking Mountain Everlasting (*Antennaria dioica*) have swollen hairs said to resemble the antennae of butterflies.

Graham Swift

Binny Craig – 10 June

Fourteen members arrived on a warm, dry evening. Binny Craig is the most easterly of the Bathgate Hills. It lies at the end of a ridge of volcanic rock and rises to a height of 719 feet. Its west face is like a miniature Edinburgh Castle rock. Although close to Edinburgh, few of those attending had previously been to Binny Craig. We approached the hill from the east, following a path along the top of the ridge. A couple of Red Admiral butterflies settled long enough for everyone to admire them. The view from the ridge also made us stop for a moment. On the southern horizon were Tinto Hill, Tarbrax bing, Culter Fell, the Pentlands and, to the south-east, the Lammermuirs.

The plants on all but the steepest slopes of Binny Craig are heavily grazed by sheep. The hill is also very dry, so the plants are faced with a struggle to survive. On the eastern slope of the hill grows Meadow Saxifrage (*Saxifraga granulata*), past flowering on our visit. On the northern rocks are Ling (*Calluna vulgaris*) and Greater Woodrush (*Luzula sylvestris*), while the slope beneath the eastern crags has a grassland vegetation indicative of slightly basic conditions, including Bulbous Buttercup (*Ranunculus bulbosus*), the yellow form of Heartsease (*Viola tricolor*) and the grass *Koeleria macrantha*. Birds were few, a very brightly-coloured Yellowhammer and a large number of Swifts being the most notable sights.

On the return journey we were amused by the antics of some lambs which clambered onto their mother's back and stood there for a few seconds before sliding off. The ewe did not mind this, but chased off another ewe's lamb that wanted to join in.

Our thanks to Oatridge College, which allowed us the use of its car park and whose land we were on throughout the walk. The ridge, and Binny Craig, would make an interesting nature trail should the College decide to develop them along these lines.

David Adamson

Appendix – Binny Craig

Some members managed to get detached from the group half way through the trip, and so missed some of the goodies. However, we did investigate the marsh and pond to the north-west of Binny Craig (not marked on the 1:50,000 map). This is well worth a visit, with attractive marsh plants including Marsh Marigold (*Caltha palustris*), Yellow Flag (*Iris pseudacorus*), Branched Bur-reed (*Sparganium erectum*) and Water Plantain (*Alisma plantago-aquatica*). There was a pair of Tufted Duck on the pond and a good stand of Brown Sedge (*Carex disticha*) by a ditch.

Returning we got lost, but our devious route back to Oatridge College led us past a stand of Giant Knotweed (*Fallopia sachalinensis*), much rarer than its aggressive Japanese cousin, *F. japonica*. Incidentally, these plants have suffered a series of name changes in recent years. Formerly lumped into the genus *Polygonum* along with Bistorts and Knotgrasses, they were recently given a genus of their own, *Regnoultria*. However, it has now been decided they belong with Russian Vine and Black Bindweed, with which they hybridise, in the genus *Fallopia*.

Jackie Muscott & John Winham

Selkirk Hill – 4 July

Margaret Little welcomed 20 members at Argus Centre where they were joined by local SWT members. Pausing at Pot Loch on the way to the hill, it was noted how the water had been lowered long ago to get at the marl which was then prized as a fertiliser. Later, a steam engine was used, the foundations of which are still visible. The pond is filling in naturally with Common Reed (*Phragmites australis*), Yellow and White Water Lillies (*Nuphar lutea* and *Nymphaea alba*). Within reach, Greater Spearwort (*Ranunculus lingua*) flowers were admired, and Mare's-tail (*Hippuris vulgaris*) formed dense colonies in the shallows.

Now to Selkirk Hill proper which lies south of the town and extends about 1 mile x ¼ mile. It is a remnant of the commonity of the Royal Burgh, probably dating to a gift from David I. Ettrick and Lauderdale District Council fell heir to it and is advised by a management group of interested parties, including an SWT representative. Gordon French, part-time warden, accompanied us and acted as guide.

Underlying soft shales and folded Silurian rock exhibiting ridges and hollows, the hill is a good example of mid-altitude heather heath with areas of scrub. Sheep have been absent for many years and invasive Hawthorn, Whin and Birch are reducing the Heather, mainly Ling (*Calluna vulgaris*). The warden is doing his best to combat these, and limited sheep grazing in the fenced area has been reintroduced, but they avoid coarse grass and old heather.

There is considerable basic content deep down, nourishing Rock Rose (*Helianthemum nummularium*) and Mountain Pansy (*Viola lutea*) in early summer. We were unable to find Mountain Everlasting on the thin soil of the hillocks, but at Skating Pond two Fragrant Orchids (*Gymadenia conopsea*) were discovered, not far from the original site of a few years ago. Also, here was a great swathe of Greater Spearwort and Skullcap (*Scutellaria galericulata*).

By the Skeely Burn were Northern Marsh and Spotted Orchids (*Dactylophiza purpurella* and *D. fuchsii*), and on a drier slope Heath Spotted Orchid (*D. maculata*).

Larvae of Emperor and Northern Eggar moths were found and an empty cocoon of a recent colonist, the 6-spot Burnet. In Thornbush Quarry sunshine broke through to bring butterflies out – Meadow Brown, Small Heath, Common Blue and a Scotch Brown Argus (*Artaxerxes*), once common on Arthur's Seat.

Jackie Muscott and John Winham listed 240 plants which demonstrates the richness of this varied habitat.

Arthur Smith

Barn's Ness – 25 July

The outing was led by Bill Clunie and was marred by rain which began after lunch. Prior to that we watched Goldfinch on a plentiful supply of thistleheads. On the sea at least 28 juvenile Shelduck were accompanied by just one adult. The majority of adult Shelduck have flown off to moult primarily in the Waddenzee, Northern Germany. The young are left in a "crèche" with one or two adult. While Shelduck have reached their moulting phase by the end of July Waders coming south are in their summer plumage still. An attractive group of Sanderling were on the beach beyond Barn's Ness lighthouse not yet in their more familiar grey plumage but in reddish-brown summer colours.

Molly Woolgar

Dere Street – 1 August

For the third time members attempted to walk on Dere Street, this time on the section between the Roman fort of Chew Green and Towford. This is a high plateau of poor grassland with good views of the Border hills. To reach the track we started at Hindhope, climbing gently by Whiteside Hill to Coquet Head and the Pennine Way to see the earthworks at Chew Green. Then we followed the track northward by Gaisty Law, over the Neck with steep gradients on either side, skirting round Woden Law, and down to Towford on the Kale Water.

We noticed signal stations to communicate with Rubers Law and Newstead, and quarry pits on either side of the track dug for roadstone and earthworks, both native and Roman on Woden Law. Romans utilised the native trackways when building their roads so Dere Street probably predates the Roman occupation of Scotland in 80 AD.

Connie Stewart

Bermuda, Lauderdale – 8 August

Ten members met in Lauder on an overcast morning which developed into drizzly showers in the afternoon.

We began our walk where the Southern Upland Way crosses the A697 and followed the way for some three miles in a north-easterly direction. This was pleasant walking through grass fields and we saw traditional agricultural land use in this semi-upland area with fields full of sheep and breeding beef cattle. Very noticeable were scattered heaps of stones where surface stones had been collected as one of the means of pasture improvement.

Society outings are not noted for a fast rate of progress across the ground but we overtook and passed a group of backpackers who were walking the Southern Upland Way. They caught up with us as we ate lunch. We then left the way and made across heather clad slopes from the Blythe Water to the Earnscluch Water. Here a second system of land use was seen as this is grouse moor on which the heather is carefully managed to suit the bird's requirements for feeding and nesting. Patches of recently burned heather had been delineated by a mower which had cut a fire-break around the requisite area prior to burning. We saw heather at various stages of recovery from previous burnings, in some places up to knee height. This had produced a patchwork of varying purple hues. The heather was predominantly *Calluna vulgaris*.

At Bermuda the drizzle stopped and the sun appeared briefly, to justify the name. Descending Earnscluch we encountered a third land use method. Large numbers of half grown pheasants were passed. They were being acclimatised to the wild and were finding ample cover among Rosebay Willowherb (*Chamaerion angustifolium*) and conifer plantations of varying age.

Duncan Gill

Airthrey Estate and Dumyat – 15 August

On a day of intermittent rain, 15 members explored Airthrey Estate, the Stirling University campus, and the steeply rising ground behind. The walk round Airthrey Loch, excavated out of the 100 ft raised beach 200 years ago, yielded various waterfowl including Little Grebe, a party of Long-tailed Tits, and a wide variety of native and exotic trees, including Holm Oak. Part of the area is dedicated to George Forrest, the Scottish plant collector.

The volcanic escarpment behind the loch is sheer in places, but steep paths wind their way up. The mixed woodlands here and above, reputedly hold a variety of Warblers and other woodland bird species but the weather and time of year were not conducive to bird calls and the main interest was the cry of a Green Woodpecker. There was, however, a variety of ferns and, as in the parkland below, several species of fungi.

A viewpoint on top of the escarpment provided a suitable spot for lunch and a good view of the other volcanic features around and to the west of Stirling. On reaching the Blairlogie-Sheriffmuir road, some of the party returned by an old road along the edge of the estate finding some interest in the flora of the boundary wall. The others went up the road and some way across the moor towards Dumyat, turning at a viewpoint which gave a panoramic view over the Links of Forth which had been the site of an extensive old settlement. Another Green Woodpecker call was heard from a mixed plantation on the way back across the moor.

Frances & Munro Dunn

Redheugh area – 29 August

A beautiful clear sunny morning made a fine start to a ramble through an area of the Berwickshire coast unfamiliar to most of the 15 members who assembled at Redheugh Farm. Harvesting was under way in the first fields we passed; we found that very few of the common “weeds of cultivation” were still visible. Soon we were in the small valley of the Old Cambus burn, which we crossed by a marshy area, with Watercress (*Nasturtium officinale* agg.), Greater Willowherb (*Epilobium hirsutum*) and Marsh Thistle (*Cirsium palustre*), and here we watched several Small Copper butterflies and a Hawk moth on the flowers of Watermint (*Mentha aquatica*). A little further on was a small dean thick with Himalayan Balsam (*Impatiens glandulifera*) from which the path climbed steeply to a splendid viewpoint of the rocky coastline towards Fast Castle Head; it was rough walking at this height for a while, then we made our way down to the beach near Meikle Poo Craig. The prevailing rock here is Old Red Sandstone and the colours and formations in the cliffs and on the shore are particularly striking. It was not difficult to walk on broken rock platforms along to the next bay, and here we were intrigued to watch a colony of House Martins wheeling round their red mud nests neatly tucked almost invisibly into the fissures and overhangs of the matching sandstone cliffs. They were feeding the last broods of the season, already well-grown and poking out of the nest-holes. There were Herons, Eiders and Cormorants to watch as we lunched here at Hirst Rocks. A skein of geese flew over towards Fast Head, then turned back and landed in a tight group in the next bay to us. They seemed, at that distance, to be Canada Geese. A couple of ruined cottages and a substantial boat-house and launching-ramp were all that remained of a salmon-fishing community earlier this century, while a small generator-house had supplied power for Redheugh farm and cottages until mains electricity was brought to the area after the last war.

We were lucky to be back in the partial shelter of the houses at the top of the cliffs when very dark clouds brought a heavy hailstorm. When it diminished we set off eastwards for a hill walk on farm tracks and sheep paths within the Redheugh Farm lands. The alternating storm clouds and bright sunshine produced a phenomena which held our attention for much of the afternoon – a rainbow which at first appeared to lie flat above the sea with one arm ending in the cove below us, and which varied in shape and intensity, sometimes looking like “Northern Lights” on the horizon, but never achieving the normal arc in the sky.

One field we crossed yielded a crop of Field and Horse Mushrooms, which no doubt ended on members' supper plates that evening. Fast Castle was too far to be included in this walk, and we turned southwards up the steep grassy slope to return to Redheugh by a still higher field path, from which were far-reaching views over to East Lothian and the Forth estuary. A final point of interest was the large farm "reservoir", still with its sluice gate intact, and a focus for many species of wildlife. Most of such old farm reservoirs were drained or filled in once mains water was available.

This was not an outing producing lengthy plant or bird lists, but a most enjoyable one, and our thanks were given to Mr. & Mrs. Tom Dykes for giving us the "freedom" of their farm.

Margaret Watson

Aberlady Bay – 5 September

A party of 24 members was welcomed by the Ranger, Mr. Ian Thomson, at the Timber Bridge on a fine sunny day.

The party set off towards the Marl Loch, which was devoid of bird life. En route three young Roe Deer were disturbed; but a Peregrine, which the ranger had seen earlier, remained out of sight.

There was a promising crop of berries on the Sea Buckthorn (*Hippophae rhamnoides*) bushes. Some traces of summer flowers were still evident, e.g. Strawberry Clover (*Trifolium fragiferum*), Viper's Bugloss (*Echium vulgare*), Sow-Thistle (*Sonchus* sp.), Dwarf Cranesbill (*Geranium* sp.), Centaury (*Centaureum erythraea*) with Marsh Pennywort (*Hydrocotyle vulgaris*) and Eyebright (*Euphrasia* sp.) growing along the sides of the paths. It was pleasing to see Autumn Gentian (*Gentianella amara*) spreading over much of the ground. A special delight was the vigorous growth of Grass of Parnassus (*Parnassia palustris*) in an area set aside by the ranger. It would be interesting to visit this area in early summer (after the breeding season for birds) to note other plants which were getting the chance to grow there.

On the way to Gullane point, along the sandy beach, Bar-Tailed Godwit, Grey Plover and an Arctic Skua were seen. During lunch at the point, there was ample opportunity to watch Arctic Tern, Gannet, Scoter and Curlew. Turnstone were active among the rocks. Ian pointed out Lion's Mane and Moon jelly fish washed up on the sand in the bay, and later Lawyer's Wig fungi (*Coprinus comatus*), also known as the Shaggy Ink Cap, on the bank near the Scrape.

On the return trip we had a good view of a Greenshank at the Timber Bridge.

Connie Lumsden

Ardtrostan, Loch Earn – 12 September

Five members set off into the wet west to look at lichens. As lichens are very intolerant of sulphur dioxide pollution it was necessary to go to an area with clean air. Lichens grow well on old-established deciduous trees in well-lit situations, and Ardtrostan provided a good selection of the more obvious common species. Other habitats in the area were a drystone wall, heathy ground and a few tree stumps. These habitats support their own characteristic lichen flora.

Lichens, for the uninitiated, are organisms that consist of a symbiotic combination of an alga and a fungus – both partners deriving a benefit from the association. The fungus provides the plant body (thallus) in which the alga live, and the green alga provides food for the organism by photosynthesis. There are three basic growth types: foliose or leafy lichens; crustose lichens and fruticose or beard lichens. All three types occur commonly on trees, whereas stone walls and boulders tend to support mainly crustose species. Large leafy lichens such as the well-known Dog Lichen (*Peltigera*) occur on the ground, and members of the fruticose genus *Cladonia* with conspicuous red fruiting bodies are usually seen both on tree stumps and on the ground.

Identification of specimens, rather like fungi, may require the use of a microscope to get down to species level. An unusual feature of lichen identification is the application of chemicals

to the thallus to obtain characteristic colour changes. Approximately 1,700 lichen species have been recorded in Britain, and a new lichen flora has recently been published.

On the day, 35 lichen species were identified, which is probably more than enough for beginners. Many more occurred on the drystone wall nearby but impenetrable bracken had grown up since the reconnaissance visit. A feature of some of the lichens seen, was the occurrence of fruiting bodies on species that do not show this feature in the polluted east. The highlight of the day was finding a large leafy lichen – Tree Lungwort (*Lobaria scrobiculata*), so called from a fancied resemblance of the thallus to lung tissue (ref. *Doctrine of Signatures*).

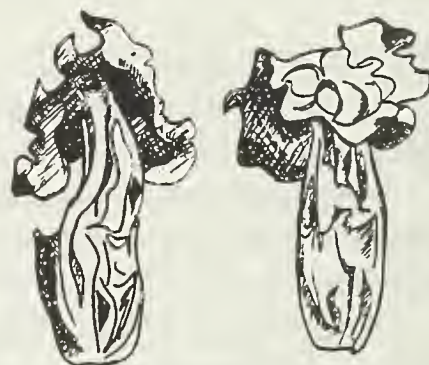
John Winham

Carberry Tower – 19 September

Approximately 12 members attended the first of the seasons' Fungus Forays. Our leader was Adrian Newton who kindly stood in for Dr. Philip Mason, unavoidably absent in South America.

A successful day was enjoyed by an enthusiastic party. A fair selection of species was seen, although nothing particularly outstanding except perhaps *Helvella crispa*, a Tolkienesque ascomycete, not uncommon but always nice to see.

Margaret Nisbet



Helvella crispa

SOCIETY LIBRARY AND EQUIPMENT

A selection of library books is available for members to borrow at evening meetings, when they may also consult the new computer list and order books. At other times consult the Librarian, Frances Dunn (Tel. 334 1339).

In addition to books, the Society has various other items which can be borrowed by members for private use. Needless to say, members will be responsible for the care of equipment in their hands.

- | | |
|----------------------|---|
| Telescope: | A Bushnell Spacemaster of 20-45 X magnification in carrying case, a mounting tripod in separate carrying case and a car window mount for in-car use.
<i>Apply to Miss Molly Woolgar (Tel. 667 2688)</i> |
| Microscopes: | The Society has seven high-powered microscopes and three low-power stereo microscopes.
<i>Apply to Mrs. Ena Gillespie (Tel. 332 3214)</i> |
| pH meter: | An instrument for measuring the acidity/alkalinity of soil or water.
<i>Apply to Mrs. Ena Gillespie (Tel. 332 3214)</i> |
| Mammal traps: | 24 small mammal traps.
<i>Apply to Mrs. Elizabeth Farquharson (Tel. 447 1994)</i> |
| Photographic slides: | A comprehensive slide collection was left to the Society by Miss Janet Raeburn. These are mostly botanical subjects but also include birds, mammals, butterflies and Scottish scenery. These slides are kept with the Library. |
| Bawsinch key: | The Bawsinch Nature Reserve at Duddingston is managed by the Scottish Wildlife Trust. They allow our Society to hold a key, to allow members entry to the hide overlooking Duddingston Loch.
<i>Apply to Mr. Jim Stewart (Tel. 447 4210)</i> |
| Computer: | <i>Apply to John Winham (Tel. 332 9537)</i> |

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JOURNAL

— 1993 —



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NOTES TO CONTRIBUTORS

It would ease production of the Journal if would adopt as many as possible of these guidelines:

- type or write clearly on one side of paper
- use A4 size paper : A5 for pictures
- leave alternate lines blank for editing
- leave one clear margin
- give English name of subject followed by Latin name
- identify location of excursions by placenames or OS map reference
- include contributor's full name, even for Nature Notes.

EDITORIAL

The major change to the Society this year has been the loss of our clubroom storage and library facilities at Donaldson's School for the Deaf. New accommodation has been arranged at the Water of Leith Conservation Trust Heritage Centre in Lanark Road. As a result of the flitting, many redundant items have come to light, including back numbers of the Journal over several years. These are being offered to members at the nominal cost of 50p per copy. Please apply to any Committee member.

The Society has also altered its Constitution, of which an amended copy is included in this issue of the Journal.

Despite the rather dismal weather this summer, most outings were well attended, and only one evening meeting had to be abandoned due to a cataclysmic downpour.

The post of Editor has now fallen vacant. Any one interested in taking it on, please contact the current incumbent – John Winham.

John Winham

ALEXANDER MENZIE DICKSON

Alexander Menzie Dickson died suddenly at his home on Friday, 21st January 1994. 'Sandy' served as Treasurer from 1979 to 1985 where his expertise did much to ease the lot of those who followed him. His interest in the countryside and Natural History came late in life and he approached his new-found hobby with enthusiasm. Linked to this was the study of Scottish history. Tayside and Tweedside districts were of especial interest to him and he was steeped in their tales and legends. Latterly, though not taking part in the activities of the Society, he always maintained a keen interest in the affairs of the 'Nats'.

George Bell

ERRATUM: On page 43 of the 1992 issue of the Journal, Connie Lumsden should have read *Cathie* Lumsden. Please accept our apologies.

CONSTITUTION AND RULES OF THE EDINBURGH NATURAL HISTORY SOCIETY

Originally founded 1869

(Incorporating the Edinburgh Field Naturalists and Microscopical Society, instituted in 1881)

Name	1. The Society is called the Edinburgh Natural History Society.
Function	2. The Society is instituted for the study of Natural History in all its branches, and for the encouragement of public interest and concern in these matters.
Membership	3. Membership is open to anyone interested in Natural History. Anyone wishing to join as an Ordinary Member should apply in writing to the Honorary Secretary.
Categories of Membership	4. The Society shall consist of Ordinary, Honorary and Junior Members. Honorary Members shall have no liability for subscriptions. Recommendation for admission as an Honorary Member may be made by the Council to an Annual General Meeting. Junior Members are aged 5 to 16 years and have no voice in the Society's affairs. Children under 14 years of age, on excursions, must be accompanied by a responsible adult. Group Membership may be granted to Schools, Colleges and Youth Clubs. Saving the rights of existing Life Members, no new Life Membership shall be created.
Subscriptions	5. Subscription rates must be agreed by a majority of members present at the Annual General Meeting. The Annual Subscription is payable on the 1st November each year, or upon admission. Membership of an applicant joining the Society after 30th April in any year shall be extended until 31st October of the following year.
Council	6. The general direction of the Society shall be in the hands of a Council, which may include an Honorary President, and shall otherwise consist of the following elected members: • a President • 2 Vice-Presidents • an Honorary Secretary • an Honorary Treasurer • 6 Ordinary Councillors plus such additional Office-Bearers as Council may from time to time deem necessary. Council may also set up Sub-Committees to ensure the smooth running of the Society.
Office-Bearers	7. The Honorary President may be nominated by Council to an Annual General Meeting and shall hold office for life or until he or she resigns. The Honorary President automatically becomes an Honorary Member. The President shall hold office for 3 years from election. The Vice-Presidents shall each hold office for 2 years from election and shall retire in rotation. The Honorary Secretary and the Honorary Treasurer shall be elected or re-elected annually. The 6 Ordinary Councillors shall each hold office for 3 years from election, 2 retiring each year in rotation. Elections shall take place at the Annual General Meeting.

- Terms of Office** 8. The President after completing his term of office shall not be eligible for re-election until after 3 years. Likewise the Vice-Presidents shall not be eligible for re-election until after 2 years. No retiring member of Council shall be eligible for re-election as an Ordinary Councillor until one year after leaving Council. Nominations for vacancies among Office-Bearers and Ordinary Councillors shall be placed before Council at the September Meeting, and if approved, shall be included in the Notice calling the Annual General Meeting.
- Council Meetings** 9. The Council shall meet at least 3 times in the year, normally in the months of January, March and September (this last meeting being prior to the Annual General Meeting). In addition a Council Meeting may be called for and arranged at any time upon due notice being given by the President, either of the Vice-Presidents, or any 2 members of Council, whether Office-Bearers or not. At a meeting of the Council 5 shall constitute a quorum. Minor Council business may also be conducted by the appropriate Office-Bearers between meetings, or *ad hoc* at Ordinary Meetings of the Society, and reported at the next Council Meeting.
- Meetings of the Society** 10. The Society shall meet regularly throughout the year. The Society's activities should include natural history excursions, talks and lectures. Records may be kept of talks and excursions with a view to publication by the Society.
- Introduction of Friends** 11. Any member may introduce friends at any Meeting of the Society.
- Accounts** 12. The Honorary Treasurer shall prepare an abstract of his accounts annually and shall close them on 31st July and submit them to the September Meeting of the Council.
- Annual General Meeting** 13. The Annual General Meeting of the Society shall be held in the month of October each year, and the business to be transacted at the Meeting shall include the Report by the Honorary Treasurer and a report by the Honorary Secretary upon the work of the Society in the preceding year. The Abstract of the Honorary Treasurer's Accounts, as already approved by the Council, and audited, shall be circulated to Members along with the Notice calling the Annual General Meeting. At the Annual General Meeting 20 shall constitute a quorum.
- Auditor** 14. An Auditor shall be appointed or re-appointed at each Annual General Meeting to audit the Honorary Treasurer's accounts.
- Casting Vote** 15. At all Meetings of the Society or Council, the Chairman shall have a casting vote.
- Records** 16. The Society shall annually make a record of its activities, which, subject to the approval of the Council, may be arranged for publication.
- Motions** 17. Notice of any Motion by any Member proposing any alteration to these Rules must be given by that Member in writing to the Honorary Secretary for consideration of the Council before 31st of August in any year, and shall be included in the Notice calling the Annual General Meeting, and a majority by a show of hands of the members present shall be sufficient to carry the Motion. Other proposals may be submitted at any time to the Honorary Secretary for consideration by Council.

- Extraordinary General Meeting** 18. An Extraordinary General Meeting of the Society, may if deemed necessary, be called at the instigation of no fewer than 15 Ordinary Members, or no fewer than 4 members of Council. The request for the same shall be made in writing to the Honorary Secretary, who shall convene such a Meeting of the Society and give written notice thereof, and of any Motion to be made at such Meeting, to all Members for a date not less than 4 weeks from the date of such Notice.
- Date** 13 October 1993.

WINTER INDOOR MEETINGS – 1993

January: The speaker for the first meeting of 1993 was Dr. Peter Jones of Edinburgh University. His talk was entitled 'The Migration Strategies of Migrant Birds in Africa'. He explained how the climatic changes in Africa have affected different species of birds according to their different winter requirements. Desertification to the south of the Sahara has severely affected birds which overwinter there, but has less effect on species which are merely passing through on their way further south. Sadly, it has also affected human populations: it was not realized that the fertility of some areas in the 1960s was a temporary phenomenon and some of the states which became independent then, are simply not viable.

February: Jennifer McConnel, also of Edinburgh University, gave a talk on 'Fermanagh Fen Meadows'. This study of one of the wilder border areas of Northern Ireland, had been undertaken as part of her degree. Interest lies in the mixture of acid heathland and calcareous fenland plants growing in proximity, as a result of the underlying geology.

March: Unfortunately, Jeremy Roberts was unable to be with us and had been replaced by Jeremy Hartman, Curator of the Research Collection at the Royal Museum of Scotland and Organiser of the Lothian Bat Group, who gave a talk on 'Bats'. He explained the ecological needs of various species of bats in terms of food, summer housing and winter housing, and how to be bat-friendly.

April: Member's Night included illustrated talks by the following:

Betty Smith – on her trip to the Galapagos Islands.

Elizabeth Farquharson spoke about Ravelston Wood, a patch of old woodland/wasteland nearer to home.

Gareth Edwards-Jones described some of the chemical defences plants developed against herbivores. Vegetarians please note.

Jackie Muscott showed slides of plants and insects noted during botanical surveys in the Lothians.

October: The President, Jackie Muscott, started the Winter Season with an illustrated talk on the botany of a number of contrasting Scottish Islands. Jura was the only one with native woodland still remaining: in Canna and the Orkneys, native trees (mainly Aspen) were only to be found clinging to small cliffs (vertical woodland), out of reach of grazing animals.

November: Mr. Jonathan Osborne of the RSPB, gave a bird-orientated talk on 'The Isle of May'. He assured us that the best time to be there was in autumn during and after a good north-easterly gale; and while Puffins are now two-a-penny (following the successful Gull-cull), a Blue-tit on the island was a real find.

December: Professor M. Usher, Chief Scientific Advisor to Scottish Natural Heritage, gave us a fascinating talk; an account of which appears elsewhere in this Journal, entitled 'Nature Conservation in Scotland' Professor Usher is a long-time honorary member of the Society and relaunched the Journal during his active membership while a student at Edinburgh University.

NATURE CONSERVATION IN SCOTLAND

Discussing research on nature conservation in Scotland at our December meeting, Professor Michael B. Usher chose to illustrate his theme with seven case studies:

1. The MV Braer ran aground in Shetland in January 1993, releasing its cargo of 85,000 tonnes of crude oil into the sea. SNH are involved with monitoring the effects of that oil on the marine and terrestrial wildlife, and are working closely with the Ecological Steering Group on the Oil Spill in Shetland (ESGOSS) to coordinate all monitoring activities.
2. The National Countryside Monitoring Scheme is endeavouring to detect changes in the countryside of Scotland. Already, we know that the hedgerow loss since the last war has been of the order of 500km per annum. Data on heathlands, forests, agricultural land and water bodies will become available at the completion of this piece of research.
3. SNH is concerned about the rare plants of Scotland, and is initiating management studies which will investigate how sites might be managed to enhance these populations.
4. As an indicator species for the health of the uplands, there has been a programme of research on the Dotterel. This is a species of the *Racomitrium* plateau country, and there are fascinating ecological relationships between this bird and its prey species, especially the montane Crane Fly.
5. In a discussion of some invertebrate work, research has focused on the populations of the Burnet Moths in Scotland. These range from the very rare New Forest Burnet Moth, which occurs in low numbers at only one site in the west of Scotland, to other species with wider distribution, but nevertheless in Britain confined to Scotland. As with the rare plants, it is important to understand how the population sizes of these moths are changing, and how sites can be managed for the conservation of these species.
6. Nature conservation incorporates aspects of the earth sciences. So as to facilitate the management of the earth science sites in Scotland, site management briefs, which explain the interest of the site and how it can be protected, are being prepared.
7. At first sight, the bings of Scotland may not appear to be of any great conservation interest. However, surveys of their wildlife have revealed many fascinating communities, especially of mosses. The presence of the rare orchid, *Epipactis youngiana*, poses a real puzzle, since this species is not known away from such habitats.

Professor Michael B. Usher

THE PENTLAND HILLS REGIONAL PARK – TIME FOR A REVIEW

The Regional Park is almost five years old in 1994, or at least its management plan is. The actual statutory designation of the Park took place in September 1986, and its management and development plan was then written, subjected to a public consultation process and formally adopted by the Regional Council in 1989. It is a five year plan and with its expiry it needs to be reviewed, updated and adopted as the plan which will take the Park to the end of the century. The review process has begun, and perhaps this is a good time to look back at the achievements. That there is a Regional Park at all is quite remarkable, it had a very difficult birth. The concept of a Regional Park for the Pentlands was initiated in the late 60s' by the then Countryside Commission for Scotland in association with the old Midlothian County Council. Its territory included much of the hill range since the County extended deep into what is presently West Lothian. From the initial concept, a feasibility study was logically carried out which analysed the strategic reasons why such a Park should be established, and recorded the public pressures which even then were apparent since the hills have, for a very long time, provided a unique and precious informal countryside recreation area for Edinburgh.

In 1972, what has simply become known as the 'Blue Book' was published – but apparently then quietly shelved as history has treated many such ambitious projects. It did not surface again until 1975 when there was a major reorganisation of local government in Scotland. It was then moved from the shelves of the County Council to the desk of the new Regional Council. There it was identified as a strategic initiative to be implemented even though at the time there was not a statutory process for designating such Parks. This was to come later.

With the dust blown off the blue covers the Regional Council endorsed the recommendation to move towards the creation of the Regional Park, in which the management and development of informal countryside recreation was to be the principal objective. It was then that the battle began, since what seemed like total opposition erupted. Looking back to that time, one can understand why. The Blue Book had been prepared with limited, if any, public consultation and there was this new Regional Council, which in itself was not exactly received very kindly, promoting the Pentland Hills as a 'park'. The fact that much of it is held in private ownership, meant that the landowners saw the prospect of their farms sitting within something related to an urban park. With this came an understandable fear that all gates would become open to an ever increasing Edinburgh public, wishing to walk 'the vacant wine-red moor' that Robert Louis Stevenson had so affectionately described in 1895.

The subsequent meetings, discussions, arguments, public reviews and confrontations ultimately led to a public inquiry as to whether a Park should be designated. In many respects this proved a vital event, because not only was the Regional Council challenged in relation as to why a Park should be created, it also gave the opportunity for local owners, conservationists and recreationists to present their views for the Secretary of State's Reporter to assess. An important element in the Regional Council's case was that, despite the recreational objective of the original concept, this was now being turned on its head as a result of consultation. It was the conservation of the hill range, its landscape, wildlife and natural heritage, which was the principal purpose of Park designation. Alongside this was the recognition of the existing primary land uses of farming, water catchment and military training, and the need to manage recreational uses within these priorities rather than promoting new ones.

That the Pentlands should be designated a Regional Park was announced in 1986, but with it there was to be prepared a 'Subject Local Plan'; a statutory planning document which, subjected to public consultation and scrutiny, would set down the planning and management policies for the Park and the implementation programme on a five year basis. The plan was adopted in 1987 and even won an award presented by the Prince of Wales in 1991, but what has been achieved since its adoption? The plan was based on consolidation rather than ambition and development. The first few years have therefore involved a relatively cautious approach.

Management groups have been set, the local communities have been consulted, management plans have been prepared, surveys have been undertaken, and landscape and conservation works have begun. Some car parks have been built, to manage local visitor pressures, and footpath repair work has started, old woodlands have been planted up and a few new ones established. Wildlife refuges have been created, vegetation management trials have been established and an education programme initiated. Perhaps these are all the things which might have been expected, certainly the plan was not to turn the Pentlands into a playground for Edinburgh folk, although some still hold that suspicion, and reassurance is constantly necessary. Not just outward reassurance but, through both informal working relationships with the landowners and formal liaison arrangements, the management of the Park moves forward with a mixture of good sense, good practice and goodwill. It could be done in no other way.

Among the list of expected achievements, stand out certain ones which are to the credit of the Pentlands community and the Park Service. The army, for example has responded by setting up a conservation group for its Dreghorn and Castlelaw Estate. Through this, it has committed itself to a management plan in which wildlife will benefit alongside the vital training of troops. It is here that Juniper trials are being conducted and plans for hedgerows and tree planting have been devised.

A comprehensive survey of all of the heather tracts in the hills has been undertaken which will serve as a basis for a series of management initiatives by the Park Service. It also provides landowners with an up-to-date plan and assessment of the heather, with its importance to their grouse and sheep management regimes. As important, is the prospect of such information being an aid to farmers seeking grant aid under the new agri-environment schemes which the government is beginning to bring forward in its response to the European move away from intensive, and often over-production of farm products, to incentives for greater care and management of the countryside.

The University of Edinburgh has established farm trails at Boghall Farm, its agricultural teaching and research base in the Pentlands, and where also the Park Headquarters is now located. Elsewhere management agreements have been established with farmers to sustain important woodland landscape features, and Farm Plans have been drawn up to identify, with the farmers, opportunities for landscape and wildlife habitat enhancement projects.

The list goes on and on, but there is still much to be achieved. If the first plan reflects a period of consolidation, with various foundation stones laid, then the review of the plan must look forward to what are the priorities to lead the Park into the 21st Century.

Such periodic reviews, with public participation, are essential since no Park is established for the benefit of the local authority but for the public it serves, whether it is the farmer on the hill or the walker wishing to explore Carnethy. This time the review must not only take into account the preferred way forward but must also cover another re-organisation of local government. This is where this piece started! While re-organisation in 1975 saw the real start of the Regional Park story; in 1996 the Regional Council will have disappeared leaving to its successors an asset which now has national significance. Who is to say what state the Pentlands would have been in without the Park. Critics will point to the disadvantages, but in looking back over five years the natural heritage of Stevenson's 'Hills of Home' has benefited – but then perhaps I am biased.

Dr John C Sheldon

BOTANICAL NOMENCLATURE (Flowering Plants and Ferns)

A new official British list of Vascular Plants has recently been issued by the Botanical Society of the British Isles (BSBI). Besides including many more naturalised plants (no fewer than 43 species of *Cotoneaster*!), it incorporates a number of name-changes. These range from major re-organisations of some genera, e.g. *Bromus* and *Polygonum*; to individual name changes, including the recycling of some old names, such as *Claytonia* and *Helictotrichon*. It seems sensible to use the new official list for botanical names in this Journal – so apologies for any surprises.

Incidentally, Clive Stace's *New Flora of the British Isles* (CUP) is the first flora to use the new names: it includes all the species on the official list plus a few more besides.

Jackie Muscott

ACRONYMS IN THE CONSERVATION WORLD

Conservation:

1. *Scottish Natural Heritage (SNH)*

Formed on 1.4.92 by the amalgamation of the Countryside Commission for Scotland (CCS) and the Nature Conservancy Council for Scotland (NCCS). SNH is the government body whose aims are to secure the conservation and enhancement of Scotland's natural heritage and to foster understanding and enjoyment of it. Specific functions include designating and caring for areas to protect habitats, wildlife and landscape: (National Nature Reserves, Sites of Special Scientific Interest, National Scenic Areas, Designed Landscapes), promoting the conservation and public enjoyment of the countryside, and providing advice to government and others. SNH is organised into 4 regions: (NW, NE, SW, SE), based in Inverness, Aberdeen, Clydebank and Perth (Battleby) respectively. Each Region has a number of Areas, each with an Area Manager and several Area Officers (AOs') responsible for a geographical area. AOs' are broadly equivalent to the NCCS Assistant Regional Officers (AROs').

2. *Scottish Wildlife Trust (SWT)*

The voluntary conservation body financed by public subscription. Organised on a Branch basis, related in general to old Counties in the more lowland areas of Scotland, and on a Support Group basis in the Highlands. Has Reserves and designates Listed Wildlife Sites (LWS) and road verges.

3. *Royal Society for the Protection of Birds (RSPB)*

Voluntary body for bird conservation. Organised on a regional basis with Conservation Officers, with Assistants covering smaller areas. Has Reserves and Local Members Groups.

4. *Woodland Trust*

Voluntary body for woodland conservation. Its HQ is in Edinburgh and its main activity is acquisition and management of Reserves.

5. *Association for the Protection of Rural Scotland (APRS)*

A voluntary body concerned with safeguarding Scotland's countryside. Edinburgh HQ.

6. *Biological Recording in Scotland Campaign (BRISC)*

Voluntary body which aims to promote and co-ordinate biological recording in Scotland. Operates via SWT HQ in Edinburgh.

7. *Scottish Conservation Projects Trust (SCP)*
Formerly British Association of Conservation Volunteers (BCTV). A charity which involves young people in doing practical conservation work. Organised from its HQ in Stirling.
8. *Friends of the Earth, Scotland (FOE)*
A voluntary body which campaigns for conservation. It has local groups.
9. *Historic Scotland (HS)*
Formerly Historic Buildings and Monuments, Scotland. An agency of the Scottish Office which looks after and lists monuments of architectural and historic interest. HQ in Edinburgh.
10. *Institute of Terrestrial Ecology (ITE)*
Part of the Natural Environmental Research Council (NERC), with 2 research stations in Scotland: (Bush, Edinburgh; Brathens, Banchory).
11. *National Trust for Scotland (NTS)*
A charitable body which aims to promote the preservation of buildings of historic or architectural interest, and areas of natural beauty. Owns over 100 properties including areas of wild country. Edinburgh HQ and members groups.
12. *Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS)*
A public body which is responsible for compiling an inventory of ancient and historical monuments and specifying those worthy of preservation. HQ in Edinburgh.
13. *Scottish Field Studies Association (SFSA)*
An educational charity providing field courses based at Kindrogan Field Centre, Strathardle.
14. *Scottish Landowners Federation (SLF)*
A voluntary federation representing the interests of landowners in Scotland. Edinburgh HQ.
15. *Scottish Society for Prevention of Cruelty to Animals (SSPCA)*
A charity which aims to prevent animal cruelty, by means of local inspectors.
16. *Scottish Wildlife and Countryside Link (SWCL)*
Umbrella body for liaison between voluntary organisations to do with the environment in Scotland. HQ in Perth.
17. *CSW Countryside Trust*
Formerly Central Scotland Countryside Trust and Central Scotland Woodlands Ltd. An organisation with charitable status whose primary aim is to transform the Central Belt landscape into one which is well wooded. Based in Shotts.
18. *Wildfowl and Wetlands Trust*
Formerly the Wildfowl Trust. A charity which aims to protect waterfowl in the world. HQ at Slimbridge, Scottish Centre at Caerlaverock.
19. *Worldwide Fund for Nature (WWF)*
Charity which aims to promote conservation of nature. HQ in Aberfeldy and network of supporters groups. Formerly the World Wildlife Fund.

Agriculture:

1. *Scottish Office Agriculture and Fisheries Department (SOAFD)*
Previously the Department of Agriculture and Fisheries for Scotland (DAFS). Oversees award of Agriculture Grant Schemes, including those of the Environmentally Sensitive Area

(ESA). Also responsible for Scotland's sea and freshwater fishery industries. Has local offices.

2. *Farming and Forestry Wildlife Advisory Group (FWAG)*

A voluntary organisation which gives advice to farmers on enhancement of wildlife and landscape. Has a series of 14 advisers; mainly appointed on a County basis working for local branches.

3. *Macaulay Land Use Research Institute (MLURI)*

Independent institute funded by SOAFD, located in Aberdeen and carrying out research on land use.

4. *Scottish Agricultural College (SAC)*

A charitable company which organises the agricultural advisory service in Scotland and further education and research in agriculture. Also funded by the SOAFD. It has branches at Aberdeen, Ayr and Edinburgh.

Forestry:

1. *Forestry Commission*

The government forestry body which has now split into the following:

- (a) Forest Enterprise – responsible for management of the Commission's own woods. Divided into a number of forests, each of which is run by a Forest District Manager (FDM).
- (b) Forestry Authority – responsible for grant aid to the private sector and approval of planting and felling. Planting now is all under Woodland Grant Scheme (WGS) which pays supplements for planting native pine in selected parts of Scotland and for planting community woodlands.

2. *Private Forestry Companies*

For example:

- (a) Tillhill Economic Forestry – (the merger of Economic Forestry Group (EFG) and Tillhill).
- (b) United Auctions Forestry Ltd.
- (c) Fountain Forestry.

3. *Timber Growers UK (TGUK)*

Association of private woodland owners, HQ in Edinburgh.

Others:

1. *River Purification Boards (RPBs')*

Responsible for pollution control. Organised on a river catchment basis.

2. *Scottish Office Environment Department*

Government body and department of the Scottish Office, formerly Scottish Development Department (SDD). HQ in Edinburgh.

Dr R.A.H. Smith
Scottish Natural Heritage

Editor's Note: The selection above is not complete by any means, and anyone wishing further information is referred to the booklet *Who's Who in the Environment – Scotland 1993*, published by Scottish Natural Heritage.

CHASING THE ELUSIVE AZURE HAWKER

There are 6 dragonfly species in the genus *Aeshna* which breed in Britain. Of these, 3 are Scottish species: the widespread Common Hawker (*A. juncea*), the very local Southern Hawker (*A. cyanea*) and the Azure Hawker (*A. caerulea*). The last-named, in Britain, is confined to Scotland. The Azure Hawker is an elusive species, slightly smaller than the Common Hawker, and the male is much bluer above, making identification not too difficult when you see it properly. The older books tell you that it is to be found in sheltered wooded areas where it loves to sunbathe on the trunks of old Birches (*Betula* spp.).

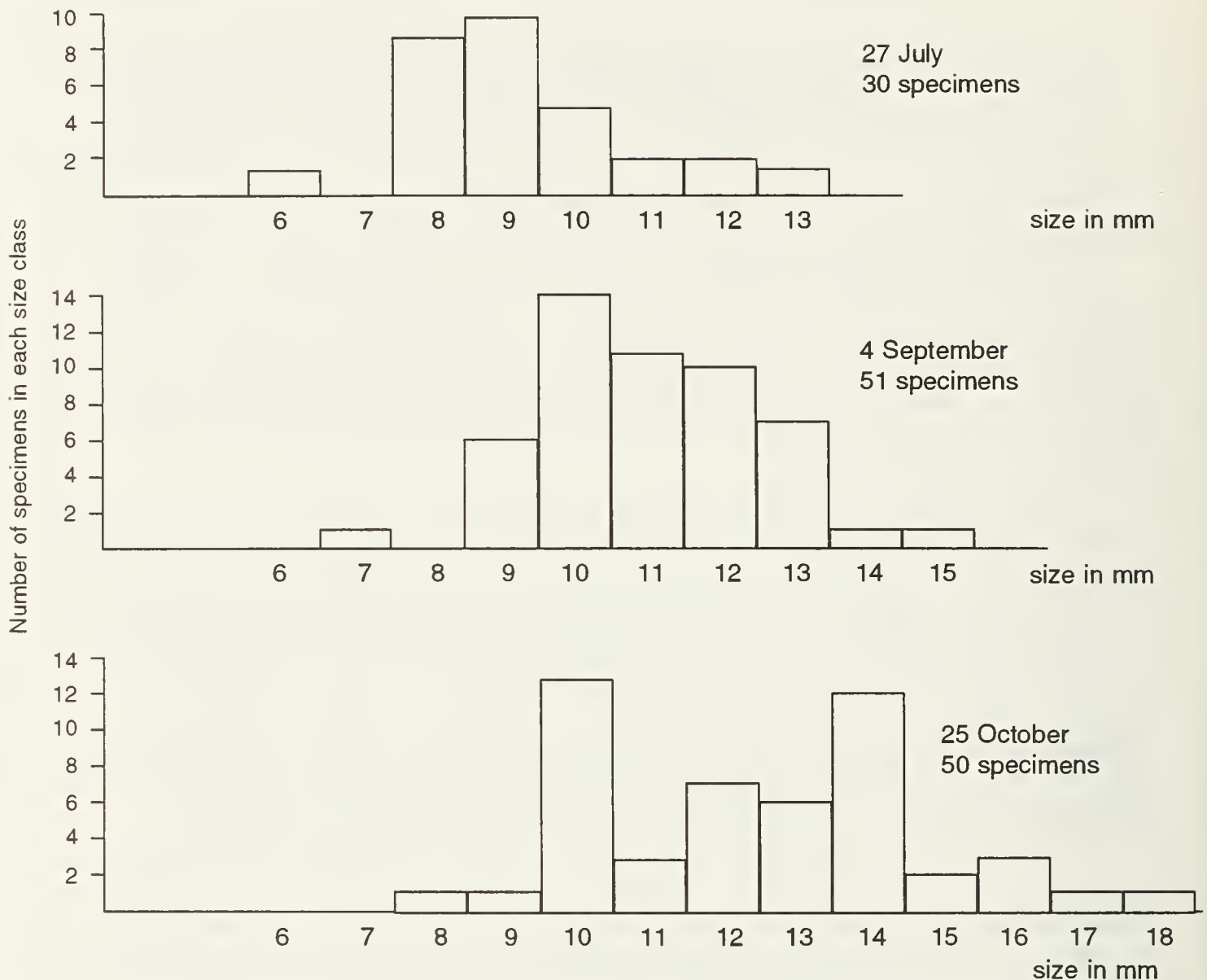
When Andy McGeeney was writing his very fine book *A Complete Guide to British Dragonflies* (1986), illustrated with his own photographs, he took his Azure Hawker photos in Europe. His shots of a female are of an overall brown insect but, in some of the literature it is given as blue. So we had a frantic SOS asking just what colour the female in Britain was. As we had not yet seen the species anywhere, in spite of several year's searching in the Highlands, we had to have recourse to the Museum where the only, somewhat faded, female specimens appeared to be shades of brown.

At long last we had our first views of this beautiful dragonfly in SW Scotland on a trip to an isolated site where David, a friend of ours from Carlisle, was beginning a study of this little-known insect. There were several flying about a clearing and fire-breaks in an area of planted conifers; and, just across a sometimes wadeable river, there was a large area of exposed bog-pools where they bred. He had found the occasional larva and exuvia (skin) but had never seen an adult actually flying over the breeding site. Two years later, we were told of an area beside Loch Maree where, in 1985, Richard Gabb had found an Azure Hawker just emerged from its exuvia. Dragonfly larvae live in wet areas and, at each stage in growth, they shed their skin. The final exuvia which is shed when they leave the water to emerge as fully-grown flying insects, is left at the emergence site. It is very light and durable and can be identified as to species.

So, in July 1989, we decided to investigate the site. It is an area of spent peat cuttings about half a square mile in extent, very eroded, bleak and exposed. There was a large bog-pool system with dozens of interconnected pools, several larger pools around the perimeter and hundreds of small to tiny bog-pools scattered seemingly everywhere but lying behind hummocks of *Racomitrium* moss, so invisible from a distance.

Where does one start? The first day was overcast with no flying dragonflies, so we looked for exuviae for hours and hours! It was long tedious work, but we did find exuviae of several White-faced Darters, 1 Northern Emerald and, rarest of all, 1 Azure Hawker as well as many of the more common species. Next day the sun shone and we hoped for male Azure Hawkers appeared patrolling low over the bog-pools. In mid-afternoon we found a female egg-laying into one of the pools and this was indeed a 'scoop'. 1989 was the first year in which this species had been observed egg-laying in Britain and our triumph was only slightly diminished when we heard that 3 other groups of odonatists, working in different areas that summer had witnessed the same event. Our female was nigger-brown in colour, some of the others were blue – another link in the chain of facts was forged.

After several negative visits in 1990 and 1991, we decided 1992 was our year to concentrate on this rare species. Simple – there is a mass emergence of 'spring' species such as the Emperor Dragonfly in England. The Azure Hawker is a spring species. We would go in early June and count them and/or their exuviae and get some idea of numbers. 2nd June saw us there on a partly overcast day. The sun came out, and with it dozens of 4 Spot Libellulas, some White-faced Darters and dozens of Common Blue Damselflies – but the only Azure Hawker was a three-quarter grown larva on top of some semi-dry Sphagnum on a dried-out pool. Two days later the sun came out again and the dragonflies were in their hundreds.

Aeshna caerulea larvae – Grudie Pool 4, 1993**Histograms of Azure Hawker larvae measured from same pool on three separate dates**

By noon the Azure Hawkers appeared – several males over the main bog pools and sunning on the sheltered rocks, and three different females were egg-laying. The cool NE breeze strengthened, the dragonflies disappeared and we saw them no more that year.

With the bit now firmly between our teeth, we planned, with military precision, our 1993 campaign – the final solution!

1st–2nd May: To sweep the bog-pools and find lots of full-grown larvae. Four hours of searching with a net and colander produced 2 in final instar, ready to emerge, and another 4 smaller ones. Next day at a similar site five miles away, our reward was another 4 and a third bog yielded only 2. In 24 hours of field work our total was 12 larvae – an inauspicious start.

21st–23rd May: To find the adults emerging en masse. After innumerable hours of searching, our combined totals were 1 exuvia and 1 female emerging from its exuvia. Although the latter was only the second time in Britain that this species has been seen emerging and did occasion some excitement, it hardly constituted our hoped for mass spring emergence. More hours of pond-dipping produced another 8 larvae.

22nd–24th June: By this date, the Azure Hawkers were out in numbers, mating and egg-laying. All we needed was a bit of sunshine. There was a cool, fresh NW wind and sunny

intervals, but two brief glimpses of a male was our total for the three days. Back, rather gloomily, to the colanders and pond-dipping. By now, hope, then faith was being replaced by desperation. Leaving the main areas of bog-pools, we tried smaller and smaller and shallower pools – and revealed a new dimension. One small bog-pool had 9, and another held 10 larvae. A third, no more than 2m x 1m and 15 cms deep, had 14! These concentrations were few and far between and we had to make the most of them. We marked the pools, did a double sweep of the shallow water for maximum numbers, and all the larvae were measured before being returned. We could now identify the type of pool which might contain good numbers of Azure Hawker larvae.

They were not in the main bog-pools, but in small, shallow perimeter ones. The vegetation comprised rather sparse emergent sedges, and pulling a colander through this would collect the larvae with minimum trouble. Each group of larvae tended to be of a similar size – (around 10-15mm, which, as we learned later, were 2nd year). Would monthly sampling from marked pools give related results?

24th–27th July: Rain and unbelievable hordes of midges did not help but we again collected and measured all the larvae in our five marked pools. There was some correlation in size but obviously there must have been some movement between adjacent pools making interpretation difficult. Then we chanced on one bog-pool, some 5m x 1m which was well separated from any other. A total of 30 Azure Hawker larvae was collected as well as 65 others of assorted species. These 30 were mainly 8-10mm in length and obviously hatched this year from eggs laid in 1992. Wouldn't it be wonderful to have a 'closed' community to sample for a year or two?

On the 4th of September and the 25th October, this pool (and the others) was systematically searched, giving totals of 51 and 50 Azure Hawker larvae respectively. By September, the rate of growth was noticeable with 35 of them of 10-12mm in size. By the end of October there were two obvious peaks, with 13 larvae of 10mm and 12 of 14mm. From all the evidence, this was indeed a 'closed' group, hatched perhaps in May and all growing to a minimum size to survive over the winter (around the 10mm mark). But some three-fifths were shooting ahead much faster than their siblings. This splitting of a single year group into two 'cohorts', a 'slow-lane' and a 'fast-lane', has been documented for other odonates. Will we be able to follow this in 1994?

Although we are a long way from the 'final solution' it is a relief that now we can identify which pools are likely to be used for egg-laying. Seeing Azure Hawkers has always been very chancy, finding them egg-laying even more difficult, but now we can prove the breeding of this most elusive species by looking at any bog-pool system. If it looks right – a few sweeps of the colander and – hey presto – its magic!

Bob and Betty Smith

BLAST FROM THE PAST

For the edification of members I am including an article from a Nats Journal of yesteryear. This particular offering surfaced in what was then entitled, rather grandly, 'Transactions of Edinburgh Field Naturalists and Microscopical Society', Session 1891-1892. I am indebted to Elizabeth Farquharson for bringing it to Editorial notice.

During the Session a number of interesting objects connected with Natural History were exhibited by members of the Society.

Mummied Cats (*sic*) – The following account of the arrival in this country of a 'cargo of cats' appeared in *The Scotsman* of Feb. 4th 1890: "there has just arrived from Alexandria via

Liverpool by the steamers Pharos and Thebes, a consignment of nearly 20 tons of cats, numbering some 180,000 head, taken out of an ancient subterranean cats' cemetery, discovered about 100 miles from Cairo, by an Egyptian fellah, who accidentally fell into the cemetery. The place was found to be completely filled with cats, every one of which had been separately embalmed and dressed in cloth. They were all separately laid out. Specimens of these have been taken by Mr Moore, curator of the Liverpool Museum, where they can be seen. The cargo, consigned to Messrs Levington & Co. of Liverpool, was purchased in Egypt at £3.13s.9d. per ton, and will be used in this country as manure. The curator of the Liverpool Museum fixes the date of the interment of the cats at 2000 yrs. before Christ."

Mrs Sprague, having read this account, wrote to Messrs Levington and Co. for specimens of the mummies, and received a printed circular stating that they had had such a mass of correspondence on the subject as to bring their regular business to a standstill; and offering to sell specimens of the heads at 2s.6d. each. Three were purchased, and Messrs Levington sent along with them, the body of a cat and a fragment of the cloth in which it had been wrapped. These were exhibited to the members of the Society.

Editor

NOTES ON NATURAL HISTORY 1993

Observations

EF	Elizabeth Farquharson	CS	Connie Stewart	SL	Sheila Litteljohn
BM	Betty Mitchelhill	MC	Mary Clarkson	DA	David Adamson
SA	Sarah Adamson	JA	Junior Adamson	GM	George McDougall
RH	Dick Hunter	JC	John Campbell	JM	Jackie Muscott
ES	Eunice Smith				

- 1/1/93 Over a dozen large Wood Blewits (*Lepista nuda*) in a Bruntsfield garden under Horse Chestnut and Birch. (EF)
- 2/93 Small flocks of Redwing dibbling about on the Meadows with the Starlings, noted on several occasions in late afternoon. (JM)
- 7/2/93 A nest of wild honey bees exposed where a large bough had fallen from a hollow tree. River Teviot near the site of Roxburgh Castle. Further up the river a Seven Spot Ladybird and a Small Tortoiseshell butterfly were seen. 88 Lesser Celandine (*Ranunculus ficaria*) flowering in the exceptionally early spring sunshine. (DA, SA, JA, GM)
- 27/2/93 Large number of False Morel (*Gyromitra esculenta*) found in flowerbed with bark mulch. Royal Botanic Garden, Edinburgh. (DA, SA, JA)
- 4/4/93 Yellow Anemone (*Anemone ranunculoides*) in flower. Tweed near Kelso. (DA, SA, JA, GM)
- 7/4/93 (*Melanoleuca brevipes*) in Ravelston House Wood near pond. Confirmed by Dr. Watling (EF)
- 22/4/93 A pair of Grey Wagtails at the pond in Ravelston House Wood. (EF)
- 9/5/93 Over 40 Green Hairstreak Butterflies, 2 Stonechats, 2 Golden Eagles and 2 Ospreys seen on a walk from Butterstone to Loch Ordie, Dunkeld. Also Lesser Twayblade (*Listera cordata*) in flower. (DA, SA, JA, GM)
- 24/5/93 Pair of Golden Eagles mobbed by crows. Ben Halton, Comrie. (GM, JC)
- 24/5/93–4/6/93 Orange-tip Butterfly in Davidson's Mains. (ES)

- 3/6/93 0845 hrs. A Great Spotted Woodpecker in the grounds of Mary Erskine's School.
(ES)
- 5/6/93 Rue-leaved Saxifrage (*Saxifraga tridactylites*) flowering at Barns Ness campsite.
(DA, SA, JA)
- 9/6/93 At Keills on Loch Sween, a pair of otters swam to the rocks on the shore and after landing, watched me for about 5 minutes before slipping into the water and swimming away.
(SL)
- 23/6/93 Two Peregrines in a noisy aerial display over the escarpment at Stronend, Fintry Hills.
(GM, JC)
- 11/7/93 Lunar Hornet Clearwing Moth (*Sphecia bembeciformis*), apparently newly emerged from pupal stage. This moth clearly mimics a wasp. Millridge Farm, Carnwath.
(DA, SA, JA)
- 25/7/93 A tame red squirrel approached us from a dyke at the edge of a small conifer wood. The local shepherd probably feeds it. Little Glen Shee.
(DA, SA, JA, GM)
- 30/7/93 A field full of Woolly Thistles (*Cirsium eriophorum*), on Bredon Hill near Evesham.
(ES)
- 5/8/93 A male Demoiselle Dragonfly (*Agrion virgo*), on the old canal at Pant y Sais near Neath in South Wales.
(ES)
- 17/8/93 Roe deer, Fox, Crossbills in conifers and a Buzzard circling over the border line half a mile west noisy Carter Bar.
(GM, JC)
- 27/8/93 Elecampane (*Inula helenium*) near Kippen. Large Yellow Ox-eye (*Telekia speciosa*) is sometimes mistaken for this plant but the leaves of Elecampane are less coarsely toothed and are downy underneath. It is confirmed that the plant at Kippen and the well established specimens at South Queensferry are Elecampane.
(GM, RH)
- 1/9/93 (*Peziza cerea*) growing on the floor of our cellar. According to R. Phillips, *Mushrooms and Toadstools*, this is its common habitat.
(DA, SA)
- 1/9/93 In the street a young Sparrowhawk downs a Pigeon and holds up a car. When the driver gets out, the Pigeon seizes the opportunity to scurry beneath a parked car. The outcome was not observed. Corstorphine.
(SA, JA)
- 17/10/93 The earth-tongue (*Spathularia flavida*), was seen near the lower car-park at Vogrie Country Park.
(EF)
- 23/10/93 While walking on the bank of the Tweed, we saw 2 Kingfishers fluttering just above the water, their bills locked together. This continued for several minutes and we had a splendid view of the birds' beautiful salmon colouring. They then broke apart, one flying downstream and the other upstream. Although we had a lengthy lunch stop nearby we did not see the birds again. Were they fighting – and if so why? There was no sign of any fish between the bills.
(BM, MC)
- 15/11/93 The uncommon sand-dune fungus (*Tulostoma brumale*), was collected at Aberlady.
(MC)

The following finds were made by ES whilst attending an Autumn Foray of the British Mycological Society (based at Auchencairn in Southwest Scotland):

- 12/9/93 *Leccinum aurantiacum* with planted aspen at Kirroughtree.
- 13/9/93 Numerous specimens of *Aleurodiscus wakefieldiae* (a pink 'splash' on fallen small branches) were found by many of the group at Castramon Wood – and, not surprisingly, ignored! In the laboratory, one of the group, not an ENHS member, managed to convince others that the spores were unusually large and worth a second look. The specimen was found to be the second record for Britain and an example of how easily species can go unrecorded. It was also a reminder that the

parameters which determine 'distribution maps' include not only the species but also the distribution, competence and attention to detail of observers.

- 14/9/93 Bog Rosemary (*Andromeda polifolia*) was found near Clatteringshows Loch and a splendid subspecies of Knapweed (*Centaurea nigra* subsp. *nemoralis*) at Stroan Loch. On the hill above the Loch an unusual *Cortinarius-bataillei* was found: this was later welcomed by one of the party who discovered that it produced an attractive colour when consigned to the dye-pot.
- 15/9/93 There was a glorious display of the 'tree' Honey Fungus (*Armillaria borealis*), on and around the trunk of a dead Ash.
- 17/9/93 The grounds of Shambellie House, which houses the Costume Collection of the National Museums of Scotland, yielded eight specimens of *Amanita citrina* v *alba* in close proximity to each other under a group of Rhododendrons.

Willow Gentian (*Gentiana asclepiadea* L.) in Perthshire.

According to the New Flora of the British Isles, Willow Gentian is grown in gardens, self-sows freely and is naturalised by streams and in shady places. It is mentioned in only 2 localities, both in Sussex. However, this beautiful blue trumpet flower, a native of the Alps and north Apennines, was found well naturalised in the now rough lawns at Gartshore Estate near Kirkintilloch by J.H. Dickson *et al.* during the Flora of Glasgow Project in the 1980s.

We can now add a fourth locality. In September 1993 we found a Willow Gentian on the bank of the Lemahamish Pool, on the River Forth at Aberfoyle in Perthshire (VC 87). On a return visit two weeks later, we saw that the patch had been dug up; some roots remain and so the plant may grow up again. The location is far from any garden and the precise position of the patch makes planting an unlikely origin. Dispersed seed may be the explanation.

N. Craib, R. Hunter and A. Laird

Coll for Corncrakes

Yes, in June 1993 we heard corncrakes all over the island, but we never saw one. If the birds were nesting on their property the islanders were completing their application for a subsidy for not cutting hay till August, to enable the birds to hatch their chicks.

. . . And Wheatears.

Red-throated Divers on the roadside loch, but the next day an ominous Arctic Skua was standing on the adjacent island.

. . . And Wheatears.

Good views of Peregrines on the cliffs, and agitated nesting Peewits, Snipe and Redshank on the Reserve.

. . . And Wheatears.

A solitary Fieldfare feeding on the Parks. Seals regarding us curiously, and a family of Ravens croaking overhead. Parties of Twite and Stonechats sitting on the wire fences.

Drifts of Common Spotted Orchid (*Dactylorhiza fuchsii*) growing in damp places. For a mile along the roadside to Scorsdale, a profusion of Fragrant Orchids (*Gymnadenia conopsea*) occurred. Just one Lesser Butterfly Orchid (*Platanthera bifolia*), but lots of Northern Marsh Orchid (*Dactylorhiza purpurella*). In the dunes at Crossapol abundant Bloody Cranesbill (*Geranium sanguineum*).

. . . And Wheatears!

Connie Stewart

Despoliation of Willows by beetles, near Kippen (NGR NS652 948)

During a Scottish Wildlife Trust outing to Kippen on 19th September 1993, it was noted that there was extensive despoliation of Willows (*Salix cinerea*), in the surrounding area.

On closer examination it was observed that there was an infestation of small green beetles 4-5mm long. This beetle (*Phyllodecta vulgatissima*) occurs in large numbers on willows in Central Europe where it can reach pest proportions.

It will be interesting to see if the willow trees continue to be infested next year or whether the beetle numbers dramatically reduce to enable the trees to return to normal.

I am grateful to Dr R.M. Dobson for confirming the identification of the beetle specimens and to A. McG. Stirling for the willow species.

Ian McCallum

FORTH ISLAND BIRD COUNTS

Every once in a while fate intervenes in the best-laid schemes of men (and mice). 1993 was the first year of the combined coverage of the Forth Islands (not May/Bass) by our team and the RSPB. We had contingency plans, fail-safe cover, back-up, etc and yet we end up with so many ifs and buts that practically no comparison is possible with the counts of 1992.

Our star performer for many years has been the Shag, increasing and spreading as though there were no tomorrow. Last year on Craigleith we had 665 nests on a late count. This year, disaster, with some 155 nests total. At the end of May there were about 15 nests with eggs when most birds should have been sitting. Three-quarters of the 'nests' consisted of a few stipes of kelp criss-crossed to prove that they were nests. In Inner Forth the numbers had dropped by up to half. Apparently the Isle of May eventually had some half of their birds nesting in July although the number of eggs per nest was very low.

Nobody really knows what had caused the very late start to nesting and the low numbers, but the probable cause is food-shortage. Whether this is because of inclement/cold weather or some other factor, we do not know. Cormorants too, suffered, but not to the same extent, with the Outer Forth population down by half and the Inner Forth birds only slightly down.

Due to inclement weather our party did not get to Fidra or Lamb and, indeed, the back-up RSPB were unable to land on the Lamb and counted from the boat. So direct comparisons are liable to error. Overall the auks seem to be holding their own and Puffin are even pushing further up the Forth, with several pairs breeding on Inchcolm and one on Inchgarvie.

Kittiwakes are having their ups and downs on the East Lothian islands but holding up well on Inchkeith, consolidating on Inchcolm and even prospecting Inchgarvie where we saw 2 sitting on suitable looking sites at the end of May.

Altogether a year to forget, but it is heartening to look forward to a calm, sunny four weeks in May/June next year.

Bob Smith

Forth Island Counts 1993

	Bass 5/6	Craig 29/5	Lamb June	Fidra June	Eyebroughty 21/6	Inchkeith 6/6	Carr Craig 28/5	Inchcolm 1/6	Haystack 6/7	Inchmickery June	Inchgarvie 27/5
Fulmar	x	182	6	267		522		129		30	130
Cormorant		45	52			24	135		44		
Shag	c20	155	65	88		11	12	12	1	28	
Eider		x		142		x	1			251	57
Gt Bl Back	1	3+		1							
L Bl Back	40	x	x }	1472		x }	c6850	x		196	10
Herring Gull	140	x	270		60	x	47	x	15		190
Kittiwake	x	1028	84	452		656		49			
Common Tern										91	
Arctic Tern											3 ^a
Roseate Tern										1	
Sandwich Tern										10	
Razorbill (sites)	x	61	13	65		64					
Guillemot (bds)	x	1416	3300	139 sites		44					
Puffin (bds)	x	1000	100	x		650		35 (3+ nests)		7 ^c /1 ^d	1 ^b

^a rail pier bridge

^b puffin with food (29/7/93)

^c occasional burrows

^d with food

EXCURSIONS 1993

Key for Excursions:

B	Botany	Fe	Ferns
F	Fungi	T	Trees
G	General	O	Ornithology
Ge	Geology	Gr	Grasses
S	Seashore	Ent	Entomology

Day Excursions

1993			Leader
16 Jan	Vogrie Estate Country Park	G	Ranger
13 Feb	Almondell Country Park	G	Ranger
13 Mar	Glasgow Botanic Garden	B	Garden Guide
24 Apr	Cramond Foreshore/Brig	G	Mrs M. Robertson
1 May	Roxburgh Circuit	O,B	Messrs Swift/Gill
8 May	Buchlyvie Woods	O	Mr I. McCallum
15/16 May	Newton Stewart Weekend		
15 May	Logan Botanic Garden	B	Garden Guide
16 May	Knockmann Wood	T,O	Forest Ranger
22 May	Keil's Den, Lundin Links	G	Mrs J. Lyburn
29 May	White Sands, Dunbar	S	Mr D. Jones
29 May	Bass Rock, Island Bird Count	O	Miss J. Wilcox
30 May	Lamb and Fidra Island Bird Count	O	Miss J. Wilcox
5 Jun	St. Abbs	O,B	Mr K. Rideout
5 Jun	Craigleith Island Bird Count	O	Miss J. Wilcox
12 Jun	Tummel Shingle Islands	B	Warden
19 Jun	The Glen Estate, Innerleithen	G	SWT Leader
26 Jun	Dalkeith Park, Dundee Nats.	G	Park Ranger
3 Jul	Luthrie Circuit, Cupar	G	Mr I. Arbuckle, Mr G. Swift
17 Jul	Peebles Circuit	G	Mr G. McDougall
24 Jul	Williamhope, Galashiels	O,B,Ent	Mr R. Payne
31 Jul	Tillicoultry Circuit	G	Mr & Mrs Dunn
7 Aug	Aberlady	O	Mr B. Clunie
14 Aug	Kilbucho, Biggar	Ge	Mr B. Baird
21 Aug	Cardrona Forest, Peebles	G	Mr & Mrs Adamson
28 Aug	East Lammerlaw Circuit	G	Mrs M. Watson
30 Aug	Gardylloo Trip		
4 Sep	Foulden, Berwickshire	G	Mr D. Gill
11 Sep	Valleyfield Lagoons, Culross	O,G	Mr J. Stewart, Mr I. McNair
18 Sep	Dunkeld	Fe	Miss H. McHaffie
25 Sep	Beecraigs Country Park	F	Mr M. Richardson
5 Oct	Woodhall Dean, Spott	F	Mr A. Newton

Evening Excursions

26 May	Craiglockhart Dell	G	Miss D. Mack
2 Jun	Cramond Island	O,B	Mr I. Clemmett
16 Jun	Currie, Lymphoy	Gr	Mr G. Swift
23 Jun	Bonaly	G	Mr M. Jones
30 Jun	Boghall Farm	G	Miss V. Chapman
7 Jul	Roman Camp, Broxburn	B	Mrs M. Robertson
14 Jul	Addiewell Bing, W. Calder	B	Mr C. McLean
28 Jul	Ravelston House Wood	G	Mrs E. Farquharson

EXCURSION REPORTS 1993

Cramond, 24 April

We were lucky enough to have a dry afternoon for our first summer excursion which was combined with the Science Festival events. Jim Simpson of the Excursion Committee welcomed 21 guests with our 'flyer' leaflet, a copy of the summer programme and a botanical list for the area, an excellent idea and warmly appreciated.

At the Cramond Inn car park we found a few early flowers of Dove's foot Cranesbill (*Geranium molle*) and admired the 200 year old sycamores, before descending to the shore, ablaze with Dandelion (*Taraxacum* sp.) and Coltsfoot (*Tussilago farfara*). On the Drum Sands a few Dunlin and Redshank remained, stragglers from the huge winter flocks, while the first Swallows of the summer migration flew past. The resident pair of Mute Swans have chosen a new breeding site almost opposite the Boat Club House, the cob having chased off about 60 juveniles to the mouth of the Almond. A Grey Heron dozed on the Dalmeny shore. Sea-shore, freshwater and woodland birds were likely to be seen.

Shade tolerant plants grow on the east bank of the Almond; by contrast, the raised beach at the Dalmeny side is in full sun. Cleared of its trees, many summer plants flourish there – Dames Violet (*Hesperis matronalis*) and Foxglove (*Digitalis purpurea*) particularly, though we saw only the bright yellow flowers of the Oil Seed Rape. Generally we found a mixture of salt water, fresh water and woodland plants, together with the mature trees planted in the 18th and 19th centuries by 'improving landowners'.

Many introduced plants were also present, some thrown out from town house gardens, others washed down the river. The most recent species include Salmonberry (*Rubus spectabilis*), native of British Columbia, growing among the Laurels (also introduced) beyond the boat house, and Himalayan Honeysuckle (*Leycesteria formosa*) spreading among Elder and Hawthorn to the left of the path leading to the Mill House.

The Few-flowered Leek (*Allium paradoxum*), a rampant coloniser from the Caucasus, occurred extensively along both banks of the river. Pink Purslane (*Claytonia sibirica*) from N. America and N.E. Asia was seen at the water's edge. Above the waterfall, Himalayan Balsam (*Impatiens glandulifera*) is well established as is Japanese Knotweed (*Fallopia japonica*), nearer Cramond Brig. Native Wood Sorrel (*Oxalis acetosella*), Sanicle (*Sanicula europaea*), Greater Stitchwort (*Stellaria holostea*) and Great Wood-rush (*Luzula sylvatica*) were in flower, as well as a few late-flowering Lesser Celandines (*Ranunculus ficaria*) and the first Red Campion (*Silene dioica*).

At the top of the wooden steps leading up to the cliff, we paused to listen to birdsong. Calls of Robin, Wren, Chaffinch, Blackbird and the Tit-mouse family were heard, with Pheasant and

surprisingly, Peacock from the Dalmeny side. We saw Pied and Grey Wagtails, Moorhen, one Cormorant and plenty of Mallard.

The line of old Beech trees (*Fagus sylvatica*), planted along the cliff now has several gaps; time, erosion and winter gales taking their toll. Dutch Elm Disease had claimed most of the old Elms though Wych Elm (*Ulmus glabra*), remains. Alder (*Alnus glutinosa*) and Willow (*Salix* sp.) grow close to the water. Leaving Dowies Mill Lane, we paused on the way to the steps leading up to Queensferry Road, to admire a garden Spruce (*Picea* sp.) in flower, very attractive indeed with its large red, conical male flowers. I found a patch of Rayed Groundsel (*Senecio vulgaris* var. *hibernicus*) on the way up to the Cramond Brig carpark.

This must have been one of the shortest walks ever, up the river taking about two and a half hours! Our guests were very interested in everything. My thanks to members of the Excursion Committee who helped me and to Jackie Muscott who kept me right with the botany. Forgive me if I end on a sour note. This favourite walk up the Almond is spoiled by being heavily fouled by dogs. Owners, unfortunately, are not compelled to remove the mess their dogs make. Perhaps the provision of suitable bins would help a little to mitigate the problem.

Mary Robertson

Roxburgh Circuit, 1 May

Warm spring sunshine greeted 20 members who had journeyed to the serenely isolated village of Roxburgh, for the first main meeting of the summer programme. Little sign remains that this quiet area was once one of four Royal Burghs and housed the Royal Mint. In a field near the start of the walk stands Wallace's Tower, probably built by the patriot, and a reminder of the turbulent past. For those interested in the history of Roxburgh; at the west end of the village, a roadside shelter houses display boards describing, in detail, the history of the locality.

After admiring the profusely spreading garden Yellow Archangel (*Lamium galeobdolon*) and Greater Periwinkle (*Vinca major*), our walk began along a path beside an old railway line, which crosses the Teviot en route to Kelso. The railway embankment was bedecked with a variety of Wood Forget-me-nots (*Myosotis sylvatica*) and both the blue and white varieties of Sweet Violet (*Viola odorata*). Here, also grew Lords and Ladies (*Arum maculatum*), the relatively uncommon Guelder Rose (*Viburnum opulus*) and Field Maple (*Acer campestre*). On the viaduct were the unexpected Maidenhair Spleenwort (*Asplenium trichomanes*) and Hart's Tongue fern (*Phyllitis scolopendrium*) clinging precariously to dry crevices.

Along the north bank of the Teviot, plants of note were a female Butterbur (*Petasites hybridus*), Hemlock Water Dropwort (*Oenanthe crocata*), Water Forget-me-not (*Myosotis* sp.), Meadow Saxifrage (*Saxifraga granulata*) and Opposite-Leaved Saxifrage (*Chrysosplenium oppositifolium*). On a bank near a row of trees, the eagle-eyed David spotted the Eyed Ladybird (*Anatis ocellata*) with its pale halo round the spots. There was much for the ornithologist to hear and see – a Greenfinch was seen at the start of the walk. A Common Sandpiper flew over the river, while a Tree Creeper flitted from branch to branch. Bullfinch, Coal Tit, and Goldcrest were heard but not seen. At a sharp bend in the river, the path turned off and we headed for the old branch line which ran from Kelso to Jedburgh, and was now our return route. Along this shrub-lined track, we saw: Blackcap in a Sycamore, Goldfinch, Long-tailed Tit and, near the end of the walk, a Sedge Warbler skulking in a Hawthorn hedge. Unusual plants were not so numerous along this stretch of the line, but Creeping Cinquefoil (*Potentilla reptans*), Imperforate St. John's Wort (*Hypericum maculatum*) and Snow-in-Summer (*Cerastium tomentosum*) were identified.

After returning to the cars by mid-afternoon, some of the party explored a shorter circuit along the line that crosses the Teviot, returning by a short stretch of road and the path from which we started the day. Great Mullein (*Verbascum thapsus*) was noted growing in a crevice of the viaduct. Cowslips (*Primula veris*) were numerous, while along the roadside was the Three-veined Sandwort (*Moehringia trinervia*) and Wall-rue (*Asplenium ruta-muraria*). Thus ended an

enjoyable and rewarding excursion, tainted only by the sight, along the river's edge of 2 dead Whooper Swans, a female Mallard and a Goosander. The carrion beetle (*Necrodes littoralis*) was found beside the latter.

Graham Swift

Buchlyvie Woods, 8 May

Ian McCallum had planned an interesting route which covered a variety of habitats. We began our walk at a point to the north west of Buchlyvie where the B835 meets the track of the old Forth and Clyde Junction Railway.

For most of the morning we followed the branch line towards Aberfoyle. The weather was fair and the walking easy. On the first section, trees on either side of the track provided cover for a variety of birds. Among them were Chaffinch, Great Tit, Yellowhammer and Willow Warbler. Fields separated us from a lovely Bluebell (*Hyacinthoides non-scripta*) wood and a farm where Swallows were flying. In the fields, Starlings perched on the backs of the sheep, and we heard the call of the Whitethroat and Curlew. Bluebells, Greater Stitchwort (*Stellaria holostea*), Comfrey (*Symphytum* sp.), Violets (*Viola* sp.), Lady's Smock (*Cardamine pratensis*) and many others grew beside the path. Of them all, the plant that caused most debate, was a Pepperwort, later confirmed to the finder's satisfaction as Smith's Pepperwort (*Lepidium heterophyllum*).

Leaving the fields behind, the track continued for a couple of miles (straight as a Roman road) through a plantation of conifers which covers part of Flanders Moss. Here, some of the enthusiasts attempted a minor fungus foray, but a recent dry spell meant that they had a lean time of it.

We turned off the railway track at an old stone bridge over a burn. The sun was shining and an old Oak (*Quercus* sp.) overhung the water, with a colourful display of Pink Purslane (*Claytonia sibirica*), Speedwell (*Veronica* sp.), Lady's Smock and Golden Saxifrage (*Chrysosplenium oppositifolium*) on and below the grey stone of the bridge, making a lovely picture. Our leader persuaded us to forgo lunch until we reached his chosen stopping place – clear of the woods with a view of Ben Ledi. So we left the track and made our way down on to pasture land beside the River Forth. The going was more difficult here and we felt a sense of achievement, once everyone had negotiated the narrow plank bridge across the worst of the wet area and settled down to a late lunch.

For a short spell after lunch, we were walking over terrain perhaps best suited to the resident cattle. However, there were glimpses of Common Sandpipers flying over the river. Soon we came onto farm roads and made our way back towards the main Stirling to Drymen road. Walking along a busy main road may not always be the easiest way to end a day's outing, but on this occasion we were rewarded by the welcome sight of Sand Martins by the side of the road, and a solitary Grey Heron sitting in a field.

Lyn Blades

Newton Stewart Weekend, 15 May

This year the May weekend was spent at Newton Stewart.

What a start to the holiday – setting out from Edinburgh on the Friday morning, the weather took a turn for the worse and snow began to fall. The trees in the coniferous forest above Moffat looked beautiful outlined in white. It was impossible to see into the Devil's Beef Tub and clouds of snow obliterated the view of surrounding hills. It was still cold and wet, though no snow was falling when we reached Newton Stewart.

During the weekend we planned to visit three locations: Logan Botanic Garden and Castle Kennedy Gardens on the Saturday and an SSSI – Knockmann Wood – on the Sunday. Logan Botanic Garden is an outstation of the RBG in Edinburgh. It is situated midway down the

peninsula of the Rhinns of Galloway, and, with the warming influence of the Gulf Stream, enjoys a mild climate throughout the year allowing plants from the southern hemisphere to be grown out of doors including Tree Ferns, Cabbage Palms and Chusan Palms. The garden specialises in growing plants from Australasia, Chile and South Africa.

Logan was the venue for Saturday morning. The rain continued to pour down as twelve members congregated in the Car Park. Moving into the brand new Visitor Centre cum Shop, we met our leader for the Garden – Mr Baxter. In his introduction he described how the garden falls naturally into two parts: the walled garden and the woodland garden. Immediately our eyes were caught by the splendour of the Cordylines or Cabbage Palms, native to New Zealand and not a palm but a member of the Lily family. Mr Baxter explained that the exceptionally mild climate combined with slightly acid sandy soil and rainfall of forty inches fairly evenly spread throughout the year, with no one month consistently the wettest, is ideal for lime-hating (calcifuge) plants such as Rhododendrons and Camellias.

Therefore these plants are among the specialities of the Garden. We were too late to see the Camellias but many species of Rhododendron were in flower. Some of those grown at Logan are too tender to flourish out-of-doors any where in Britain, except here. One example is *Rhododendron maddenii* with scented white to pink flowers. More hardy Tree Rhododendrons in shades of purple, lemon and pink were a brilliant sight. Other memorable plants were *Fuchsia excordicata* from New Zealand, whose flowers appear before the leaves, and *Cordyline indivisa* with a flower head like a huge cone. Passing the pond we saw the large yellow spathes of Skunk Cabbage (*Lysichiton americana*).

Some of the most outstanding plants at Logan are the Australasian Tree Ferns (*Dicksonia antarctica*) – a few are at least 50 years old and the fronds can reach up to 6 feet in length. One plant had been cut down and the cross-section left to show how the new fronds grew from the centre, the outer rings being fibrous roots. Some had leaves which were brown and tattered and Mr Baxter explained that this was due to the salt wind – being close to the sea provided problems for some plants, so shelter belts were being created.

The rain stopped as we moved on to the Rock Gully formed by natural bedrock. An innovation was a large pebble mound created by piling up round, flat stones out of which was growing (*Parahebe perfoliata*). Nearby was the peat-wall garden, pioneered by the McDouall family who began the creation of a garden at Logan. Asking us to keep very quiet, Mr Baxter took us to see an Oystercatcher's nest which had been made in a stone trough – it contained 4 eggs. Everywhere we saw plants of the Giant Bugloss (*Echium pininana*), a Canary Islands endemic. The plants sow themselves randomly throughout the garden and those in suitable positions are left to become established for 2 to 3 years. They can grow to 18 feet or more – a pillar of blue flowers from May onwards.

We walked up the Avenue of Chusan Palms, which climbs a slope by means of shallow steps, at the top of which is the Terrace Garden and the gate into the Wild Garden.

Here a great deal of work is in progress to create shelter belts. Previously the only shelter from the salt winds from the sea was an elevated bank planted with many Fuchsia bushes. These are being cleared and hardwoods planted, as is Flax which has a high tolerance to salt spray. Three species are used: *Phormium tenax*, *Phormium purpureum*, and *Phormium cookianum*.

In this part of the gardens is the Gunnera Bog, in summer the huge leaves can reach 6 feet across. *Gunnera manicata* comes from Brazil, and at this time of year the plant looks quite insignificant. I have been able to mention only a few of the wonderful and unusual plants we saw. It was unfortunate that it was wet for much of the morning – the umbrellas were up and down several times, but it did not dampen the enthusiasm of our leader, who for 2 hours had shown us the treasures of Logan Botanic Garden.

Joan Lyburn

Castle Kennedy Gardens, 15 May

And so, after our dreich morning at Logan, we hoped our luck would change in the afternoon. Not so; it was wild, wet and blustery when 6 carloads of intrepid ENHS members arrived at the entrance to Castle Kennedy Gardens, a few miles east of Stranraer and the home of the Earl of Stair.

From the ruins of the medieval castle near the gate, extensive lawns sweep down to a large lily pond. From there, an avenue lined with many fine specimens of Monkey Puzzle (*Araucaria* sp.) rises gradually to the present castle and a small area of formal gardens. On either side of these grounds are two elliptical lochs: the Black Loch and the White Loch, though on the day we chose to visit, both would have been more aptly named Grey Lochs.

The estate is renowned principally at this season for its stunning displays of Rhododendron and Azaleas. Around the lily pond we saw red and white flowering Rhododendrons the size of Oak trees, whilst rows of golden azaleas were in flower underneath the *Araucaria* avenue. Apparently the gently sloping avenue and the lily pond had been constructed by soldiers, under the instructions of the then Earl, who had recently returned from the Napoleonic Wars. The lily pond had earlier been an arm of the Black (?) Loch until extensive earthworks resulted in its separation.

Sadly, many of the original flowerbeds in the formal garden had been grassed over. We were, however, able to admire a Paper Bark Maple in one corner, identified from its russet colouration and peeling bark by one of the group. Some of us were lucky enough to spy a large white 'heron' flapping leisurely over the White (?) Loch. Through the rain, the beak appeared to be yellow and legs black, indicating a Great White Egret. Unluckily it landed some distance away out of sight and was not seen again. The sighting was particularly noteworthy given the distinctly northerly weather pattern and wind direction.

Shortly afterwards, the sun valiantly fought through the dense cloud cover and at last the cameras could be brought into action to record the glorious spectacle of the Rhododendrons fringing the lily pond. Though we had envied the flocks of Greylag Geese their waterproof footwear, no one was in doubt that the memorable vistas were not to be missed. As the sun shone more brightly and the temperature mercifully rose, the woodland songsters were encouraged to make up for lost time, most notably a Blackcap which struck up from a thicket fringing the canal beneath the carpark.

Andrew E.S. Lyburn

Knockmann Wood, 16 May

The excursion for the second day of the weekend lay in the proximity of Newton Stewart. From the car park there was a wonderfully wide, breathtaking view toward the surrounding high hills curving round in a circle above the area in which we intended to walk. Snow lying on the high ground added to the magnificence of the scenery. It was the only day of the weekend when the weather was dry, clear and fresh enough to see long distances.

In their brief introduction to the area, our two leaders from the Forestry Commission, told us that the Commission had acquired the estate in 1982. Its value rested on it being a remnant of mature semi-natural oak woodland, mostly of coppiced origin, left after felling during the last two wars. Conifers have been planted to produce timber. We set off in the forest, and before reaching the high oak woodland after midday, the party had walked through areas divided into distinct sections, each characterised by one particular type of conifer. Sitka Spruce (*Picea sitchensis*), gave way to Douglas Fir (*Pseudotsuga menziesii*), which was succeeded by Hybrid Larch (*Larix* sp.), showing both this year's and last year's cones. These are thinned after 20 years and felled after 50 years. Coming down from the heights, we walked through Norway Spruce (*Picea abies*).

However, some of the conifers have not thrived due to the effects of Honey Fungus (*Armillaria mellea*), spreading from the roots of hardwoods cut down in the past. We passed such an area after entering the Douglas Fir plantation. Fallow deer have browsed any broadleaved natural regeneration, so that deer fences and tree guards have had to be erected to protect the broadleaved woodland. At the far end of the walk, we passed through a deer fence and the difference between grazed and ungrazed land was quite marked.

Conservation areas have been left unplanted to preserve ground flora, reptiles, amphibians, mammals and bird habitats. Ground vegetation varies from dry upland Blaeberry (*Vaccinium myrtillus*) heath, to wetland liverworts and mosses. The area is noted for a wide variety of birds and insects: including moths, butterflies, aphids, weevils and wood-boring species (others are mentioned below). Red squirrels and other small mammals exist. In addition to Fallow Deer, there are both Roe and Red Deer (the first two seen by us). One of our leaders informed us that the Fallow Deer came in various shades of colour.

Even humans have made an impact here as evidenced by the large number of archaeological sites from prehistoric times: varying from settlements and enclosures to a chambered cairn. Most of these were difficult to find in the depths of the forest, but the cairn stood out clearly on the open moorland.

Our leaders concluded their description of the area by mentioning two misfortunes that had befallen the region. The first was a devastating forest fire which badly affected the area's status as an SSSI – it was the habitat of a very rare spider. Secondly, the unseasonable snow of the previous week had had an adverse effect on the song-birds and the nests of the ground birds.

We had a spectacular view of a Buzzard on top of a conifer, a Pipit and a Reed Bunting were also seen. The path took us into the Douglas Fir section, where we were shown a Forestry Commission conservation project – bird boxes for Barn Owls. One of our leaders was employed as an ornithologist and as this was his responsibility, he described the project. When the eggs are laid, the male stays in the box or he perches on the conifers. The boxes are plastic and located in pairs: half are fixed horizontally and the remainder vertically. There are 86 locations. Last year 37 Barn Owl pairs were seen at the boxes plus 12 Tawny Owl pairs. This year there were 22 pairs and 10 undecided. Next year a greater number are expected. A big number is expected every 3 years with a low year in between, and the other year variable.

A Dor Beetle crossed our path, one of several that we saw during the day. It is a member of the Dung Beetle group, black and shiny in appearance, with a vivid bright metallic blue or green underside. Carpets of Bluebells (*Hyacinthoides non-scripta*) were seen – a radiant vision and a joy to behold. This was a notable feature of our walk. Birds seen here were: Great Spotted Woodpecker, Siskin and Tree Pipit. Our next halt was a lochan, a habitat for dragonflies, though none were seen. From its shore a herd of Red Deer could be glimpsed on the wooded slopes above. Nearby, a Northern Eggar Moth caterpillar and a Whitethroat were seen.

We were told that Crossbills and Redpolls have had to adapt to new food sources and that a huge flock of Goldfinches had been seen feeding on Sitka Spruce.

Emerging from the Larch forest for our lunch stop, we had extensive views down the Cree Valley and past Penninghame in the other direction. Heathland plants here, included Heath Bedstraw (*Galium saxatile*), Thyme-leaved Milkwort (*Polygala serpyllifolia*) and an interloper – Greater Stitchwort (*Stellaria holostea*); Wood Warbler and Cuckoo were also encountered.

After lunch came the walk through the Oak (*Quercus* sp.) woodland at the farthest and highest end of the reserve. An air of spaciousness was created allowing plenty of light and a pleasant atmosphere. Redstarts were heard. Near the deer fence a Fox ran across the path, and a Rowan (*Sorbus aucuparia*) seedling was seen sprouting from the main fork of an Oak tree. Apart from Oak and Rowan; Sycamore (*Acer pseudoplatanus*) and Beech (*Fagus sylvatica*) were present. Wood Sorrel (*Oxalis acetosella*) and a Garden Warbler were noted.

A fine stand of Beech trees marked the turning point for the return walk and we were rewarded with the fluttering flight of an Orange Tip butterfly. Earlier on, one of our leaders told us that there had been an explosion of the population of these butterflies in the last year or so. Following the path as it turned to go beside the boundary wall, we arrived back on familiar ground, and a pair of nesting boxes appeared, but like the earlier ones, there were no barn owls. It looked as if the Forestry Commission ranger was eager to show us the owls in the boxes, but his colleague, the ornithologist, was emphatic that the birds should not be disturbed. We agreed that this was the best policy and moved on. Our next observation was a Slow-worm followed by a remarkable caterpillar – orange below, black above with a dividing blue line interrupted with white spots. From its upper side sprang tufts of bristly hairs. A few of us saw a Tree Pipit and the appearance of a Kestrel rounded off our day.

Roddy Clarke

Keils Den, 22 May

Keils Den is situated a mile north of Lundin Links in the East Neuk of Fife. It consists of a small ravine which runs east to west, with natural woodland extending to forty seven and a half acres on either side and the Keil Burn flowing through it. The trees are mainly Birch (*Betula* sp.), Beech (*Fagus sylvatica*), Ash (*Fraxinus excelsior*) and Oak (*Quercus* sp.), with an understory of Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Hawthorn (*Crataegus monogyna*). Over the past 20 years, many trees have been felled, leaving large open spaces where Bracken (*Pteridium aquilinum*) has taken over. This is to be brought under control in the next 2 years.

When Keils Den was put up for sale on the death of the former Laird, some local people took the opportunity to obtain it for the community. In March 1992 it was handed over to the Woodland Trust for management.

The eleven members present, entered from the northwest side opposite Pitcruvie Castle. We explored both sides of the Keil Burn at two levels. The usual woodland flowers were found including a few late-flowering Primroses (*Primula vulgaris*). The masses of Bluebells (*Hyacinthoides non-scripta*), mixed with Red Campion (*Silene dioica*) and Wild Garlic (*Allium ursinum*), on the north side were remarkable. Other finds were the egg of a Stinkhorn fungus (*Phallus impudicus*), Bootlace Fungus (rhizomorphs of *Armillaria mellea*) and a pink slime fungus on a Beech stump. One of our members, with a particular interest in Ladybirds, pointed out several 7-spots, a 10-spot and 2 Cream-spots. Two Orange Tip and some Meadow Brown butterflies were brought out by the sunshine. There was copious birdsong and the drilling of a Woodpecker was heard.

The afternoon being fine and the outing to Keils Den ending early, several members continued down to the seafront at Lower Largo. We walked eastwards along the course of the old railway line through the Dumbarrie Links and found a mass of yellow Cowslips (*Primula veris*), so many that we thought it worthy of record.

Nancy Ireland

White Sands, near Dunbar, 29 May

We started our day at White Sands during a brief shower and were led cautiously across slippery fossil-rich rocks by David Jones.

On our way to the first pool, shore zonation was described to us. Each zone is inhabited by its own set of organisms. We learned how organisms have their own needs, and how different levels of drying and temperature alter their tolerance when exposed to sun and air by the receding tides. Examples of seaweeds that have their own zone preferences include Channelled Wrack (*Pelvetia canaliculata*), Toothed Wrack (*Fucus serratus*), Bladder Wrack (*F. vesiculosus*), Spiral Wrack (*F. spiralis*), Knotted Wrack (*Ascophyllum nodosum*) and *Enteromorpha* sp. Periwinkles (*Littorina* sp.) also show zone preferences

The first pool explored, at the top of the shore was fished for animals like Hermit Crabs (*Eupagurus bernhardus*), Chitons (*Loricata*) and tiny Brittle Stars (*Ophiuridea*).

We lunched in the sunshine at the top of the shore, where we saw numerous 7 and 11-spot Ladybirds. Plants of interest included Field Madder (*Sherardia arvensis*) and Bur Chervil (*Anthriscus caucalis*).

The party then advanced to a lower pool which was deep and clear and turned up many more and larger Hermit Crabs, and Brittle Stars 2-3 inches across. Shrimps and two unidentified fish were caught. Egg cases of various animals were seen and further varieties of seaweed such as Carragheen (*Chondrus crispus*), *Corallina* sp. and Tangle (*Laminaria digitata*) were becoming more evident. All the rocks were encrusted with Acorn Barnacles (*Semibalanus balanoides*). Young ones newly settled from their motile stage, were developing their hard plates.

We ended our day refreshed after a dabble in a habitat differing from our usual haunts.

Sarah Adamson

St. Abbs, 5 June

It was a perfect day for St. Abbs, warm sun, blue sky and the lightest of breezes. As we came in sight of the cliffs we heard the familiar sound of the Kittiwakes; and the headland was bright with Sea Pinks (*Armeria maritima*). The Ranger, Mr Rideout, talked to us briefly (we were a party of 17), before we set off toward the lighthouse. In fact, there was less noisy movement from the south-facing cliffs; many of the birds had beaks wide open, the Ranger thought that they were feeling the heat and therefore less active.

The Rockrose (*Helianthemum nummularium*) was well out on the fenced-off scree and seems to be spreading beyond the enclosure. We were told that the headland has recovered from the previous very dry summers and that sheep are now taken off the ground for some months in the summer; but that some grazing is important.

We stopped for lunch on a small secluded point where we could look straight onto nesting Kittiwakes and Guillemots. On this east-facing cliff most of the Kittiwakes were on nests, head under wing, except for the occasional raucous change over. At least one Guillemot chick could be seen being fed. There were a number of breeding Shags in their glistening breeding plumage. The Ranger told us that they had been noticeably affected by the recent cold wet weather and that their nesting attempts had been set back.

Onward then, past the lighthouse to the far cliffs with their thousands of birds. In a layby, near the diver's carpark was a fine display of Spring Sandwort (*Minuartia verna*). It was hot and gorse scented along by the loch. A Coot was seen with four young, Yellowhammer, Wren, Willow Warbler and the Kittiwakes coming and going on their washing flights.

Nira Laing

Tummel Shingle Islands, 12 June

Only five members met to explore the shingle beds and were welcomed by Mr John Anderson who outlined the role of the Scottish Wildlife Trust and Atholl Estates in the management of the area. Throughout the walk on the way to the shingle beds we were shown the effects of the severe flooding earlier in the year.

Despite the damage, it was a sheer delight to find Yellow Pimpernel (*Lysimachia nemorum*), Bugle (*Ajuga reptans*), Rockrose (*Helianthemum nummularium*), Milkwort (*Polygala vulgaris*) and Wood Cranesbill (*Geranium sylvaticum*) flowering in their lovely colours. Insects, including Orange Tip butterflies were evident – not many birds in sight, but the whole outing was so enjoyable on a lovely warm sunny day with Mr Anderson sharing his knowledge.

Cathie Lumsden

Bonaly Country Park, 23 June

Mr M. Jones being unable to be present, Mr V. Partridge, one of the Pentland Hills Rangers, led us on what turned out to be a very enjoyable evening. As we set out the sun was shining and as our leader took us up by the Dean Burn, over a stile and through a steep-sided gorge, we could have been miles from the nearest habitation.

The grasses were in full flower and we tried – with varying success – to apply what we had learned on the previous week's outing. We did recognise Quaking Grass (*Briza media*). There was a wide variety of seasonal flowers: Heath Bedstraw (*Galium saxatile*), Crosswort (*Cruciata laevipes*), Pink Purslane (*Claytonia sibirica*), Wood Sage (*Teucrium scorodonia*) etc. The Speedwells ranged from the very common Germander (*Veronica chamaedrys*) to Brooklime (*V. beccabunga*), in the wetter areas we also saw Bog Stitchwort (*Stellaria alsine*) and Butterwort (*Pinguicula vulgaris*). We were able to contrast the purple-green of the Marsh Thistle (*Cirsium palustre*) with the more usual Spear Thistle (*Cirsium vulgare*). In the gorge we saw Rockrose (*Helianthemum nummularium*).

As we zig-zagged up the valley, crossing and recrossing the burn trying to find the easiest and least boggy route – long legs were a distinct advantage – we came across a family of Wrens and stopped to admire them. In this area there were also Grey Wagtail. Further up near Bonaly, we saw and heard a number of Redpoll; a Common Sandpiper was seen bobbing on a post and another flew across the reservoir. A (possible) Pochard was the only duck to be seen.

Descending from the reservoir, there were magnificent views extending from Ben More in the west to far along the eastern coast of Fife. Within the Park are many types of habitat – grassland, woodland, moorland, marshes and bogs. On the way back we were taken round Sanctuary Wood, where the public have no right of access, so dead standing wood can safely be left in the hope that Woodpecker, fungi etc may be attracted to it. Although mainly Larch (*Larix* sp.), there is a variety of other trees and we stopped to look at a Western Hemlock (*Tsuga heterophylla*) and later to puzzle over what might have been a Beech (Lodgepole) Pine (*Pinus contorta*). A Roe deer was seen and we were told that Badgers live in this area.

As we returned to the carpark, Cow-wheat (*Melampyrum pratense*), was a final flower to add to the variety of things we had seen.

Betty Mitchelhill

Boghall Farm Trail, 30 June

Boghall Farm Trail lies about one mile beyond Hillend on the A702. Local schools arrange educational visits, both for primary classes and for those older pupils preparing for examinations. It is also used by students from the Scottish Agricultural College. The farm itself covers an area of 235 hectares. On the low ground, cereals and seed potatoes are the main crops and on the hill ground, cattle and sheep are grazed.

On a Wednesday evening in late June, Vida Chapman from Rural Resource Management, SAC, led a party from the ENHS round the Farm Trail. She explained that the experience gained in setting up this Farm Trail has allowed the SAC to give advice to those farmers, interested in conservation, who may wish to create a similar trail on their own land and also to give advice with regard to necessary grants for such a project.

The main aim has been to create varied habitats. The Trail skirts alongside the Cowloan Hedge. This hedge, mainly of Beech (*Fagus sylvatica*) and Hawthorn (*Crataegus monogyna*), runs north and south to minimise the shading of nearby crops. It is trimmed every two to three years in an A-shape. This further reduces shading, allowing wild flowers to grow at the base; it gives a variety of depths to the hedge to suit the needs of nesting birds who also use, as perches, the quick-growing twigs which sprout at the top. There has been extensive planting of hedgerow trees here. The Trail continues through Cowloan Wood, an area consisting of neglected coppice,

mainly sycamore. Coppicing has been re-introduced; twenty tons of wood removed and the resulting gaps planted with Oak (*Quercus* sp.), Ash (*Fraxinus excelsior*), Alder (*Alnus glutinosa*) and Rowan (*Sorbus aucuparia*).

With aid from the Forestry Commission, three acres of steep hillside have been planted with Birch, Oak, Ash and Sycamore. These trees will eventually be coppiced on a fifteen year rotation. Also on the hillside are experimental set-aside strips. Field ponds and wet areas have been created and the original Boghall Farm Pond has been dredged and improved. A footpath leads up through Boghall Glen, a steep-sided gorge with a fast-running stream.

Vida Chapman proved to be a most informative guide with evident enthusiasm for the project. She had many constructive ideas for the future. The visit ended in the Rural Interpretation Centre, where we were asked to comment on the existing Trail and to suggest future improvements. We heard that helpers are needed to record plants growing on ten metre stretches beside Cowloan Hedge, and also on the set-aside strips. We also gathered that volunteers to help with school parties would be most welcome. Anyone interested should contact: Vida Chapman, Scottish Agricultural College, Rural Resource Management, West Mains Road, Edinburgh EH9 3JQ.

Margaret White

Luthrie Circuit, 3 July

Fifteen members gathered beside Lower Luthrie farm, on the fringe of Luthrie village 6 miles north of Cupar, to enjoy a variety of wild flowers on the 4-5 mile circuit. The walk encompassed an early 17th C. farmhouse at Denmuir Farm, and a climb up to 285m. on Norman's Law, to marvel at the view of the River Tay below and the sea beyond.

The outing was led by Graham Swift, who had hoped to introduce the farmer at Lower Luthrie, Ian Arbuckle. Ian was unavoidably absent, so Graham briefly described the 632 acre farms of Lower Luthrie and Carphin, farmed by Ian. A Friesian herd of 100 dairy cows utilise the flat and fertile low ground that runs down to the A914, while a suckler herd of 200 spring calving beef cows graze the surprising hilly ground on Carphin, west of the main farm. This is marginal hill ground with whinstone outcrops furnishing a botanists paradise of acid and lime loving plants.

Along the roadside to Lower Luthrie that runs to Carphin House, were luxuriant carpets of Pink Purslane (*Claytonia sibirica*), and in the hedgerow, the uncommon Himalayan Tree Cotoneaster (*C. frigidus*). At the end of this road; a narrow green lane, formerly a hillside road between Luthrie and Aytoun, leads down to Denmuir Farm. Numerous attractive plants, all in relative abundance, line this delightful lane. They included the delicate woodland grass – Wood Meadow Grass (*Poa nemorosa*), Tuberous Comfrey (*Symphytum tuberosum*), Yellow Figwort (*Scrophularia vernalis*) and Feverfew (*Tanacetum parthenium*).

Dr. Thompson, the owner of Denmuir Farm, who had kindly agreed to speak to us, enthused over the wild life of the area, including a family of Whitethroats, just seen in the hay barn. Across the lane stood the oldest roofed double-chambered doocot in Fife, a listed building notable for its rat-proof slate ledges. The piece-de-resistance was the original farmhouse bearing a coat-of-arms dated 1635 and of special interest to Historic Scotland.

Lunch was eaten at the foot of Denmuir Hill, in an area frequented by Rockrose (*Helianthemum nummularium*) and Sand Spurrey (*Spergularia rubra*), just 2 of the 28 uncommon plants recorded by Mary Robertson, in a total of some 120, which included 6 sedges. Other species of note here, or on Norman's (Norseman's) Law, were: Knotted Clover (*Trifolium striatum*), Cut-leaved Cranesbill (*Geranium dissectum*), Knotted Pearlwort (*Sagina nodosum*), and Quaking Grass (*Briza media*). On the higher ground above Carphin Farm, a rocky outcrop of whinstone was ablaze with purple Bell Heather (*Erica cinerea*), with masses of Heath Speedwell (*Veronica officinalis*) and Tormetil (*Potentilla erecta*) carpeting the foot of the outcrop. Finally,

below Carphin, Rough Chervil (*Chaerophyllum temulum*) – new name; and the lime-loving apple-scented Sweet Briar (*Rubus rubiginosa*) were recorded.

Graham Swift

Addiewell Bing, 14 July

It was a rather damp gloomy evening when some half dozen members of the ENHS met for a tour of Addiewell Bing – which was rather a pity as we were denied the extensive views from the summit. The bing which lies to the north of Addiewell village, sandwiched between the B792 and Breich Water, consists mainly of shale with some coal and earth. Since 1988 it has been leased to the Scottish Wildlife Trust at a nominal rent under a 21 year agreement, and Colin Maclean of the Wildlife Trust was waiting to take us around.

The bing was stabilised and planted in the early 1980s as it had been eroding into the river. Then, Oak, Ash, Hazel, Rowan, Alder and Hawthorn were planted, as was Aspen which did not survive and a few Crab Apples which have suffered badly from rabbits. Stands of Larch and Lodgepole Pine had been planted on the barer patches, and the SWT plans to replace them with Scots Pine higher up, and with more Oak and perhaps Aspen on the lower slopes. There are also some self-set Birch, Willow, Broom and a few Sycamore.

The Wildlife Trust had started to take an interest in the bing soon after the plantings, and bird counts had been conducted from 1984. In that year some 27 species had been noted; since then the number had increased to 46, with Tits, Goldcrest and Siskin being attracted to the conifers, and Willow Warblers moving into the deciduous shrubs. Mammals noted on the site include Hares, Rabbits, Foxes, Roe Deer, Moles, Short-tailed Voles (Field Vole) and a passing Bat or two, but they were not in evidence for us, although we did come across a dead Toad. Part of the bing had been well colonised by Ling (*Calluna vulgaris*) and trees had been removed from the slopes. There is a little Stagshorn Clubmoss (*Lycopodium clavatum*), but this is difficult to find amid the heather, though cushions of the heathy lichen (*Cladonia portentosa*) are more easily visible.

Some areas are being kept as 'meadow' and cutting had encouraged the growth of clovers: White Clover (*Trifolium repens*), Red Clover (*T. pratense*) plus a little Zigzag Clover (*T. medium*), Hop Trefoil (*T. campestre*) and Small Yellow Trefoil (*T. dubium*) were all present. There were patches of Common Spotted Orchid (*Dactylorhiza fuchsii*) and the odd specimen of what appeared to be the hybrid with *D. purpurella* (*D. x venusta*). Yellow Rattle (*Rhinanthus minor*) and Eyebright (*Euphrasia* sp.) were present in the short grass, while taller herbs included the typical 'bing' species: Oxeye Daisy (*Leucanthemum vulgare*), Hardhead (*Centaurea nigra*) and assorted Hawkweeds (*Hieracium* sp.) Vetches were also well represented, and rarer flowers included Goatsbeard (*Tragopogon pratensis*) also known as Jack-go-to-bed-at-noon, and Burnet Saxifrage (*Pimpinella saxifraga*), a curiously named umbel whose lower leaves do look like those of Salad Burnet, but the resemblance to a Saxifrage escaped me.



The weather, although only too favourable for Midges, was rather less so to Butterflies, but we did flush the odd Meadow Brown from the long grass. Apparently Red Admirals had been present in June, and there was plenty of evidence of defoliating Moths on the Birch trees. Its certainly an area well worth revisiting on a sunny summer's day.

Jackie Muscott

The Eponymous Euonymus, 17 July

One Saturday in mid-July a group from the Society walked along the banks of the Tweed and then on to the old railway line near Peebles. Early in the walk we came upon a Spindle tree (*Euonymus europaeus*) with its diagonally quartered fruits still showing their fresh green colour – had we encountered them later in the season they would have been flamboyant in orange and red. The wood of the Spindle tree was indeed used for making spindles and also (because of its hardness and reluctance to splinter) for knitting needles. How often we take the names of flora and fauna for granted – whether the common or the Latin language version. Perhaps if we paid more attention to their origins (if known) and their history we would have less trouble remembering them. (For the pedants among us – the meaning of eponymous has been 'stretched' a little here, but surely a little poetic licence can be allowed for the sake of alliteration – otherwise why did we learn all those funny words in school?)

The old railway bridge was nearly covered in a mass of Ox-eye (or Moon) Daisies (*Leucathemum vulgare*). The Yellow Toadflax (*Linaria vulgaris*), was growing by the path, the colouring of its flowers also giving rise to the name 'Butter and Eggs' in some places. It is easy to see how the Thistles – Creeping (*C. arvense*), Spear (*C. vulgare*), Marsh (*C. palustre*) and Melancholy (*C. helenoides*) – came by their common names. Each of these thistles belongs to the *Cirsium* genus and later in the season the pappus of their fruits have typical feathery hairs, whereas the other main genus of Thistles – *Carduus* – have rough pappus hairs which are not feathery. The one specimen of this genus we saw on the walk was the Watted Thistle (*Carduus crispus*), the common name deriving from the raised spiny ridges or welts growing up the stem. One of the easier ways to distinguish between Watted and Marsh thistles is that Watted has spiny bracts around its head and Marsh has smooth bracts.

Meadow Cranesbill (*Geranium pratense*) and Meadow Vetchling (*Lathyrus pratensis*) were seen among the meadow grasses, and also the evocatively named Dove's-Foot Cranesbill (*G. molle*) and Cut-leaved Cranesbill (*G. dissectum*). We compared the vetches and noted that the flowers of Tufted Vetch (*Vicia cracca*) were a darker blue and had a more crowded flower spike than the Bush Vetch (*V. sepium*). We also saw a remarkable pure white 'sport' among them. The lack of tendrils and a short point at the ends of the leaves, were noted on Bitter Vetchling (*Lathyrus montanus*) – but how often do we question why it has the name 'bitter'? Seemingly in some parts of Scotland it has been used to flavour whisky – on this occasion no comparison was possible due to the lack of foresight of the members of the party! The vetches have nodules on their roots which enable them to utilise (or 'fix') the nitrogen from the air instead of being reliant on the soil; thus they enrich the soil in which they grow. The vetches also have stipules at the base of each leaf: these prevent ants from creeping up the stems to the blossoms, but are no protection against certain Bumblebees (*Bombus terrestris*) which steal the nectar from the flower by eating through its base and thus neither bring or take away pollen to assist in the reproduction of the vetch.

Some fungal specimens were found including the 'Blusher' (*Amanita rubescens*). Another *Amanita* was nestling in its volva under a beech tree and was suggested to be *A. spissa*. The kidney-shaped bracket fungus *Tyromyces stypticus* was found on a fallen log and identified (thankfully) without tasting. Another find was a large *Volvariella* with the distinctive combination of volva and pink spores. A bright yellow *Suillus* completed the list of larger specimens.

Our eyes were not always directed earthwards: early in the day Long-tailed Tits flitted in and out of the nearby trees and a magnificent group of eight Herons remained standing in a patch of rough grass across the field so that they could be viewed at leisure. One was later observed standing in the river in solitary vigil while yet another flew overhead. We saw Ringlets and Meadow Brown butterflies and several day-flying moths. If only Meadow Browns were the *only* brown butterflies to be found in meadows and Ringlets were the *only* butterflies with rings on their wings there would be fewer problems with names!

Eunice McA. Smith

Ravelston Wood 28 July

Natural History interest was low for the group who came on this evening walk, as flowering plants were past their best, birds were largely silent, and the ground was too dry for fungi. However it was a pleasure to see, at the start of the walk, a few Swifts, which have been so scarce this summer, flying high.

The wood was entered by the gate at Blackhall, where a resume was given of the local quarries: Maiden Craig and Craigleith have been infilled, the former becoming a residential area while the latter has recently become a huge shopping complex. A third quarry within the wood has been partially infilled. These three quarries were a source of good quality sandstone, much in demand for buildings in Edinburgh and further afield.

Until recently, the wood belonged to Ravelston House but when the house and most of the grounds were bought, to house Mary Erskine School, the wood passed into the hands of a building firm. As yet no development has taken place and the wood makes a pleasant walk, heavily used by local people.

We walked through the wood amongst well established Beech, Oak, Sycamore, Lime, Ash, Birch, Scots Pine and Larch, skirting the rear of Mary Erskine School and Ravelston House and past the Ice House. The ground then drops to a lower level where the soil is very poor, being a mixture of quarry waste, derelict building and rubbish infill. The small pond in the old quarry is attractively situated and in spite of the water being very polluted, it has supported a pair of Mallard and two Grey Wagtails throughout the summer.

Elizabeth Farquharson

Tillicoultry, 31 July

Those who braved a poor weather forecast and a morning of heavy showers were rewarded by a fine sunny afternoon and by a walk of much variety and interest. The route was a circular one starting on the slopes of the Ochils just above and to the north of Tillicoultry, then east to the outskirts of Dollar, and returning on the south side of the River Devon. Habitats included old woodland, conifer plantations, a disused railway line, stream and river banks and verges of agricultural land, so that a surprising variety of plants were seen for the time of year. These included Common Centaury (*Centaureum erythraea*), Enchanters Nightshade (*Circaea lutetiana*) and Large-flowered Hemp-nettle (*Galeopsis speciosa*). Smooth and Prickly Sowthistle (*Sonchus oleraceus* and *S. asper*) growing side by side provided a useful comparison as did Common and Greater Birdsfoot Trefoil (*Lotus corniculatus* and *L. pedunculatus*). A Green Woodpecker (*Picus viridis*) was heard by most but seen by only one observant member. Our thanks go to Frances and Munro Dunn for all the effort which must have gone into seeking out such an interesting route.

Mary Clarkson

Kilbucho, 14 August

Almost continuous rain did not prevent us enjoying a very varied day in a most beautiful part of the country in the hills near Biggar.

Leaving the derelict farm steading of Mitchelhill, we descended to Kilbucho, passing the lynchets or cultivation terraces formed in the Middle Ages when Kilbucho was an important religious centre. Mr W. Baird, our leader found St. Bedes Well for us (called after the Venerable Bede). The water of the well was said to have medicinal properties and never to run dry. The nearby house, formerly the manse of the now ruined church, is in very good repair, having been renovated many times. We were unable to decipher the inscription over one of the doors, but 1751, the date of a later renovation was to be seen quite clearly on a stone high up at the back of the house. The church had only part of the gable ends remaining although it was in use until the end of the last century. In the churchyard there were some interesting gravestones. One was of a 19th C. schoolmaster and had been erected by his scholars. Older stones lying horizontally were so covered by nettles and other growth that we could not see them, but in spring they are more easily discernible.

From the church we continued up the valley following the lade which had been constructed to bring water to the mill at Mitchelhill. Here Lesser Spearwort (*Ranunculus flammula*) was the most common flower, but Sneezewort (*Achillea ptarmica*), Devils-Bit Scabious (*Succisa pratensis*), Lousewort (*Pedicularis sylvatica*) etc were also seen along with various fungi.

The valley had become its present shape after the glaciation of the Quaternary Period when it had been a melt water channel. The glacial deposits were best seen in the sheep scrapes. Creep off the hills had also added to the debris in the valley. The area is mainly composed of Silurian greywacke and it was in a quarry of this type of rock that we hunted for corals and other fossils. How is it that coral, formed by an organism living in clear shallow water, came to be found in the greywacke which had been laid down in the deep ocean? Mr Baird explained how earthquake shocks had set off turbidity currents which carried all before them, off the continental shelf and into deep water. There, the rocks had formed which were later crushed, folded and eroded to constitute the hills as we see them today. One special coral – *Kilbuchophyllia* – has been called after this area as it was first found here. It must have been an exciting discovery, as corals of this sort – solitary discoidal corals – had never before been found in rock earlier than the Mesozoic era, 200 million years ago. These rocks were Silurian, dated at 400 million years. We were fortunate enough to find some of these corals, as well as brachiopods, gastropods and crinoids.

After lunch at the quarry we turned our attention to something much more modern! We climbed to the top of White Hill to see an Iron Age Fort, a mere 2 to 3 thousand years old. Although surrounded by a rampart and ditch, this was probably more a settlement than a fort. It covered a very large area and had never been finished. Although called 'Iron Age', it is probable that flint and bronze rather than iron were the materials in use. Continuing eastwards, at the other end of the ridge we came to the Mitchelhill Rings, another settlement, very much smaller and with 2 rings of ramparts and ditches round it. As we descended again to Mitchelhill, we saw where the lade had been dammed to provide a head of water to turn the overshot mill wheel. Nothing remains of the wheel but we could see where it had stood. We ended by looking at some yellow Irish Yew (*Taxus baccata*, '*Fastigiata*') and Red-berried Elder (*Sambucus racemosa*) which stood in what had been the garden of the farmhouse. We had had a very interesting day and are most grateful to Mr Baird and Mr Somerville who led us.

Betty Mitchelhill

Cardrona Forest, 21 August

Leaders: David and Sarah Adamson.

Cardrona Forest lies south of the Tweed and east of Peebles, not far from the more popular Glentress Forest. The land was purchased by the Forestry Commission in 1930, and the hillsides have been planted mainly with Larch, Scots Pine, Douglas Fir and Sitka Spruce. Three main paths have been laid out for walkers and the 22 members and guests who assembled at the Kirkburn car park set off to cover the 4 mile Wallace's Hill walk at a gentle pace.

The forest is not rich botanically, although Beech Fern (*Phegopteris connectilis*) and Narrow Buckler Fern (*Dryopteris carthusiana*) were found. On a previous visit, Oak Fern (*Gymnocarpium dryopteris*) had been seen. New Zealand Willowherb (*Epilobium brunnescens*) lined the sides of some paths, with Sand Spurrey (*Spergularia rubra*) on the path itself. A Great Spotted Woodpecker was heard and Siskins seen but the main natural history interest was in the fungi. Some members had anticipated this, and were able to fill their baskets with a variety of species. These were laid out on a picnic table at the end of the walk and Dick Hunter expertly identified them, with some help from Mary Clarkson. The collection included *Pholiota flammans*, *Russula paludosa*, *Amanita vaginata*, *Boletus piperatus* and a large *Lepiota rhacodes*.

The weather had been kind throughout, and there were splendid views across the Tweed to the Moorfoots, particularly from an Iron Age fort in a clearing on Castle Knowe.

We thank the Forestry Commission for supplying details of the forest and the fort.

David Adamson

Oldhamstocks, 28 August

It was in bright sunshine that 19 of us set off along the one street of the attractive little 'conservation village' of Oldhamstocks, only to stop for several minutes to watch a pre-migration assembly of House-martins and Swallows centred on a tree by the roadside and the adjacent cottage roof. Our route past Mill Cottage to the bottom of the valley, led us to a botanical puzzle: a large area of damp woodland thickly covered by a flowering plant which we were convinced was a *Polygonum* but couldn't find in our Flora. (Subsequent research indicated that it was Lesser Knotweed (*Persicaria campanulata*, formerly *Polygonum campanulatum*), a cultivated ground cover which had either 'escaped' or been planted in a very congenial habitat.

After crossing the little footbridge, we had a steep climb up the bracken-covered hillside to the Woollands, where the farmer is 'diversifying' by building a bottling-plant for the local spring water. From here we were accompanied by three friendly horses and one of the dogs until we firmly shut a gate on them and continued our upward route on farm-paths and field edges, seeing many of the usual 'weeds of cultivation', since these fields – mainly of Oil Seed Rape this year – are not being sprayed. Still climbing, we skirted a block of more mature conifer forest, and crossed a fine grassy meadow where we were glad of the expertise of one of our party in identifying many of the species for us. The weather was less sunny now, but still mild and almost windless, so that when we reached a small cairn, with fine views of the Lammermuirs in every direction, a lunch stop was very welcome. Bird-life was very quiet; a few Linnets, a couple of Skylarks and Meadow-pipits and sounds of Robin and Wren in the forest edges were all that we could record at that stage. There was still some uphill walking before we passed the last of the conifer plantations and were out on the open hills. A few of the group opted for the steep descent to the valley of Yearn Hope, whilst the rest of us continued on the ridge towards the head of the dean, where the views of the screes, and steep heather and blaeberry-covered slopes were very striking. We eventually worked our way down to the dry stony bed of the Yearn Water, where we were intrigued to hear the burn running underground in some places, and emerging as a clear stream at others. Where we crossed one such, a flat stepping-stone was found to be thickly encrusted with Caddis fly larva cases.

The going was easy now along the valley bottom and through the farmyard at Stottencleugh. Beyond the dry ford, Oldhamstocks Burn appeared above ground again and we were pleased to have a good view of a Heron flying upstream. Even better was the sight of a Buzzard circling over the Cocklaw area, mobbed by several small birds. Some of the party saw a Sparrowhawk, which had been noticed the previous week, on the reconnaissance walk in the same area. As in most places this summer, butterflies seemed very few; we saw: Small Tortoiseshell, Green-veined White, Small White, Meadow Brown and a Ringlet.

Back at our cars, outside Oldhamstocks Church, we spent some time in the churchyard, looking at some very old gravestones and the small watch-house built for the guard against body-snatchers of the 19th C.

Margaret Watson

The Gardyloo Sail, 31 August

What has become an annual outing on board Lothian Regional Council's sewage sludge disposal vessel, took place again this year. Sailing time was scheduled rather later than usual at 0830 hrs. and some 15 minutes after that we cast off and were manoeuvred with great precision through a series of dock entrances and into the entrance lock. By this time breakfast was on the table, so all 12 of our party tucked in as we were gently let down to sea level.

Once out into the river it appeared that we were in for a day of fine weather, and so it proved. Over the entire summer route (they change the dump point in the winter months), which took us northeastwards between the Fife coast and the Isle of May to a point a few miles east of the Bell Rock lighthouse, the sea was at its calmest, only slightly rippled and in many spots virtually glass smooth.

Whilst these conditions were ideal for a sunshine cruise, they were not quite what the avid birdwatcher had hoped for. It needs a bit of wind and wave usually to bring in the hoped for rarer birds like Shearwaters. So on this occasion we saw none of these, nor did we have Little Gulls or Black Terns which had been seen on past trips. Nevertheless, the quality of the light provided outstanding views of a close-in Great Skua or Bonxie, one of four seen on the day, Gannets young and old, Auks in the form of Guillemots, Razorbills and a few Puffins, the usual variety of Gulls and two Arctic Skuas. There were small birds around too. Swallows and Pipits flew past from time to time, and some excitement was aroused on the return journey when a Pied Flycatcher came aboard briefly. Thereafter, as we sailed up the inner Forth past Musselburgh, a few Red-throated Divers were spied, and a variety of waders and a Glaucous Gull were added to the list as we sailed back into Leith Docks. The keenest member of the party totted up 33 species for the day. Not bad at all.

After thanking the Master and his crew we disembarked at about 1815 hrs.

Jimmy Stewart

Valleyfield Lagoons, 11 September

Half-a-dozen members turned out for this mainly ornithological outing to the ash lagoons at Low Valleyfield on the north side of the Forth. Scottish Power, who developed the site and will continue to do so for some years to come, have been pumping pulverised fuel ash into the lagoons from the nearby power station at Longannet since its commissioning.

Before setting out to walk round the area, Mr Norrie Paterson, the resident site engineer, gave us a short talk on both the development of the site, and the current situation which involved a great deal of earth moving to raise the level of previously filled and stabilised lagoons. He also mentioned plans for the future, when it is proposed to landscape the area and provide public walkways around the seawall to provide access to Preston Island; the site of an old colliery and salt pans. The Island, of course, is an island no more.

An interesting aspect of the present work, is the laying down of the foundation structure by Fife Regional Council, of a sewage works to service 8000 to 12000 local residents, and which will operate on the relatively modern system of using growing plants to feed on the sewage sludge and provide a clean discharge into the river.

Our walk round the edges of the lagoons on a day of strong SW winds produced some 30 species of bird. As would be expected, gulls and waders predominated, but a single Wheatear was spotted, a covey of Grey Partridges, two Great Crested Grebes distantly on the river, and an Arctic Skua made a brief appearance as we lunched. The tide was in at the time, so many of the gulls and waders, especially Curlews and Lapwings, were roosting on the drier lagoons. Those lagoons that held exposed mud fringed with shallow water were attractive to Shelduck and waders, mainly Dunlin but with them was a party of 13 Little Stints, quite a large group of the smallest of the sandpipers.

Towards the end of the outing, we settled for a while at the north-east corner of the seawall and watched across the mudflats at the mouth of the Bluther Burn as the tide slowly receded. Waders were abundant, Plovers, Godwits, Redshank and Oystercatchers, and again mixing with the Dunlins a few of the rarer Little Stints and a single Curlew Sandpiper.

As we prepared to leave, House Martins were hawking in masses over the trees behind Low Valleyfield, making ready for their migration southwards in the weeks ahead.

Jimmy Stewart

The Hermitage, Dunkeld 18 September

A small group of us spent a peaceful autumn day among the beautiful tall trees in the Hermitage. The intention was to look primarily at ferns but we also saw some fungi and discussed a few flowering plants.

The slope near the carpark was more basic than the rest of the area and was mostly covered with Common Male Fern (*Dryopteris filix-mas*). We noted that the ultimate segments – the pinnules – were toothed and tapered to a point. The scales were a soft brown colour and mainly near the base of the frond.

From the path by the river we could see the stiff glossy fronds of the Hard Shield Fern (*Polystichum aculeatum*) which may be benefitting from some additional lime in the remains of a mortared retaining wall along the bank. This fern is evergreen and the previous year's fronds could still be seen dangling down the bank below the current year's growth. Closer examination showed each pinnule like a tiny mitten with a distinct 'thumb'.

In the most acidic woodland there were the large shuttlecocks of the Broad Buckler-fern (*Dryopteris dilatata*) with wide three-times branched fronds and striped scales at the base. There was a lot of the Hard Fern (*Blechnum spicant*), with the flatter vegetative fronds and the narrower upright fertile fronds. There were many plants of the Golden-scaled Male Fern (*Dryopteris affinis*), which in this woodland has good examples of at least three different subspecies! As these subspecies vary in size and frond colour, it is necessary to appreciate that they exist, but the species can be confirmed by the presence of a dark area at the base of the side branches where they meet the main stem, best seen on the back of the frond. It also has more abundant, conspicuously golden scales, compared with the Male Fern.

Opposite Ossian's Hall, above the waterfall, some Filmy Fern (*Hymenophyllum wilsonii*) grows through the mosses and stands out through being slightly darker. This tiny fern is only a few centimetres high and one cell thick. It is not very accessible and great care should be exercised in this area above the narrow ravine.

On the bridge there are two mortar-loving species of Spleenwort, both with their sori containing the spores in rows. The narrow-fronded Maidenhair Spleenwort (*Asplenium trichomanes*) grows beside the Wall-rue (*A. ruta-muraria*), which has a more triangular frond.

Further along the path, over the bridge, we saw Beech Fern (*Phegopteris connectilis*) with the two lowest pinnules pointing backwards, and Oak Fern (*Gymnocarpium dryopteris*) where the frond is distinctly divided into three parts. There was also Lemon-scented Fern (*Oreopteris limbosperma*), which did indeed have the correct scent, and the sori neatly arranged around the edge of the pinnules, in contrast to the other larger ferns.

We crossed back over the bridge and headed for Ossian's Cave. The Lady Fern (*Athyrium filix-femina*) was seen with delicate well-toothed pinnules and the distinctive J-shaped sori on the back of the fronds. There was also the Northern Buckler (*Dryopteris expansa*), a smaller, more yellow-fronded and pale-scaled version of the Broad Buckler. The Narrow Buckler (*Dryopteris carthusiana*) was only noted once, with a creeping rhizome, upright single fronds and pale scales. On the acidic rocks and tree trunks we saw the Common Polypody (*Polypodium vulgare*) with very simple fronds and circular sori on the back. Bracken (*Pteridium aquilinum*) was not very frequent as the trees provided too dense a canopy, which is more suitable for the less common ferns. We walked back by a forest ride which brought us out by the upper carpark.

Heather McHaffie

Beecraigs Country Park, 25 September

A successful day's fungus foraging was enjoyed by an enthusiastic group of 20 members and friends led by Mr Mike Richardson. Summer seemed to have come at last and Beecraigs was looking at its best. The party followed a circular route through the eastern part of the park in the morning, by conifer plantations and a fine Beech avenue, crossing the central road to have a picnic lunch in the sunshine by the pond. The afternoon was spent in the western section of the park; across grassland, past more conifer plantations and through Birch scrub. Over 60 species were seen; the most interesting of which were: Green Wood-cup (*Chlorosplenium aeruginascens*) and False Truffle (*Elaphomyces* sp.). The mycelium of the former stains the wood through which it grows, a distinctive blue-green colour and this was formerly used in the manufacture of Tunbridge Ware. The False Truffle grows underground but was seen because *Cordyceps ophioglossoides* was spotted. This is a fungus like a small earth tongue which is parasitic on the False Truffle growing a couple of inches below.

Mary Clarkson

SOCIETY LIBRARY AND EQUIPMENT

The Society Library was moved to the Water of Leith Conservation Trust Heritage Centre, opposite the 'Tickled Trout Inn' in Slateford, at the end of January. Hopefully, members may find this location less daunting than the interminable corridors of Donaldson's School for the Deaf. If nothing else, strengthening medicine is conveniently available over the road!

A selection of library books is available for members to borrow at evening meetings, where they may also consult the computer list and order books. At other times, refer to the Librarian, Frances Dunn (Tel. 334 1339).

In addition to books, the Society has various other items which can be borrowed by members for their private use, including LP records of Birdsong with accompanying booklet, and a recording of Grasshoppers. Needless to say, members will be responsible for the care of equipment in their hands.

- | | |
|-----------------------------|---|
| Telescope: | A Bushnell Spacemaster of 20X-40X magnification, in carrying case and a car window mount for in-car use.
<i>Apply to Miss Molly Woolgar (Tel. 667 2688).</i> |
| Microscopes: | The Society has seven high-powered microscopes and three low-powered stereo microscopes.
<i>Apply to Mrs Ena Gillespie (Tel. 332 3214).</i> |
| ph Meter: | An instrument for measuring the acidity/alkalinity of soil or water.
<i>Apply to Mrs Ena Gillespie (Tel. 332 3214).</i> |
| Mammal Traps: | 24 small mammal traps.
<i>Apply to Mrs Elizabeth Farquharson (Tel. 447 1994).</i> |
| Photographic Slides: | A comprehensive slide collection left to the Society by Miss Janet Raeburn. These are mostly botanical subjects, but also include birds, mammals, butterflies and Scottish scenery. These slides are kept with the Library. |
| Bawsinch Key: | The Bawsinch Nature Reserve at Duddingston is managed by the SWT. They allow our Society to hold a key, to allow members entry to the hide overlooking Duddingston Loch.
<i>Apply to Mr Jim Stewart (Tel. 447 4210).</i> |
| Computer: | <i>Apply to Mr John Winham (Tel. 332 9537).</i> |

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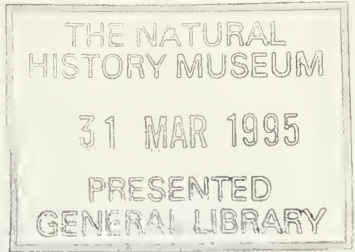
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JOURNAL

— 1994 —



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EDITORIAL

"Johnnies-come-lately" to the Edinburgh scene with only a rudimentary knowledge of natural history, and, furthermore, with no experience of the techniques of Desk Top Publishing used in producing this journal - our qualifications for the job of Editors can hardly be described as impressive. But we accepted the invitation to try our hands at it because there was a lot we might learn. In that much over-used phrase, we have been "on a steep learning curve". That we have been able to produce a journal at all is due in no small measure to the help and advice we have received. We are indeed grateful to numerous individuals who have been generous in showing us how to do the job and in correcting our many mistakes: particularly the past Editor, John Winham, who passed on much useful information; Mrs Anderson, who dealt with the diagrams for us; members of the Editing Committee who found most of the errors; and to willing contributors who almost always gave us their work in easily legible form.

Nevertheless, we are aware of the Journal's many shortcomings, and any objective judgment on it must be along the lines of "could do a lot better". Perhaps with some experience behind us, we may be in a position to improve next time. We hope that there will be many articles and observations forthcoming for the 1995 Journal; we would urge members to submit them as early as possible. It is best if we have a steady trickle throughout the year, and, importantly, that all contributions are available before the end of the year.

Jean and Andrew Gilchrist

Joan Lyburn

It was a moving tribute to Joan's wide interests that friends from so many different circles brought to over-flowing the Church of the Good Shepherd at Murrayfield on the 21st November. Many gladly stood. They included representatives of the Guides, the National Trust for Scotland, Save the Children, Hopetoun House, her Country Dancing Group, and of course the Edinburgh Natural History Society.

Joan's connection with the Society dates back to the late sixties. Especially as a result of a cheerful and productive Nats botanical outing to an old railway-line near Humble a year or two later, her leanings towards the botanical side were confirmed, and the finding and identification of wild flowers became a continuing source of pleasure on excursions, holidays and local walks for the rest of her life. She served as a valuable member of the Excursion Committee for many years, and latterly was a Vice-President. She planned and led a number of outings herself, and enjoyed the long week-end trips. A Field Study course on Mountain Flowers at the Kindrogan Centre, and the Society's happy week in April 1988 spent observing natural history in Majorca, were highlights to which she often referred.

She gave generously of her time and talents to voluntary services, as a guide at Gladstone's Land for the National Trust of Scotland; in the Save the Children charity shop at Corstorphine; at Hopetoun House; and, not least, for the Edinburgh Nats. Within the Society she will be greatly missed.

Contributed

Mary Herdman

Mary Herdman died in January 1995. She was born in South Africa, where she spent her childhood. From there she moved to Banchory and lived there for many years until the death of her parents. She settled in Edinburgh in 1955.

Mary came from a talented family of artists, and in her younger days painting and weaving were among her hobbies. She was a staunch supporter of the National Trust for Scotland.

Mary was a regular attender at the Society's winter lectures, and until ill-health curtailed her activities, came on many outings when her enthusiasm, her tremendous knowledge of people and places and her fund of anecdotes made her a delightful companion.

Contributed

European Nature Conservation Year 1995 A Celebration of Achievements but with an Eye to the Future

It seems that every year is themed for something by somebody but for those with an interest in wildlife conservation 1995 should be special. The Council of Europe has declared it "European Nature Conservation Year" and it is to mark the twenty-fifth anniversary of its "Conservation Year" held in 1970.

To many of us 1970 was a turning point in the wider recognition and acceptance of the importance of protecting and managing wildlife in the face of increasing environmental damage. Intensive farming, sprawling industrial development, expanding settlements and increasing recreational pressures were taking their inevitable toll. It was not just a threat to the natural heritage of the UK but also to the quality of life. The 1970 campaign was to awaken many to the problems that modern technology and economic growth were posing to wildlife and its conservation at that time.

There are two overall objectives to the 1995 campaign, with its slogan of "look to the future - look after nature". First it is to increase the awareness amongst decision makers of the needs of wildlife conservation. Secondly it is to promote practical ways to halt the deterioration of wildlife sites and habitats which are not protected as SSSI's, or one of the many other designations which cover the most important sites in Scotland. Most importantly the overall campaign is to be directed towards local communities, and that means everyone.

In twenty five years nature conservation has come a long way. The awareness of the threats at once created a protective response and this perhaps has created a negative feel about nature conservation in the minds of, for example, developers, road engineers or farmers. It stops them doing things or creates a lot of criticism of the way they go about doing their work. It is hoped that we have moved on from that approach, or at least we are steadily moving on and now appreciate the need to conserve and enhance if we are to sustain habitat and species diversity in our towns and countryside for future generations to enjoy. That is important.

In many ways, while 1995 is to look forward to what is to be achieved during the next twenty five years, it is also to be a celebration of wildlife and what has been achieved. In this respect the year will have particular significance for the local authorities in Scotland. It will see the end of a structure of Regional and District Councils which has existed for twenty years and their own particular mark on nature conservation during that time.

On 3 November 1994, the Royal Assent was given to the Local Authorities etc (Scotland) Bill to make it a statutory Act. At midnight on 31 March 1996 this will sweep away all existing Councils to replace them with a new system of unitary authorities. They were once called County Councils! The threats and opportunities that this will create for nature conservation work will unfold over the next few years and this is not the place to dwell on them. However, the present local authorities have made a very important contribution to nature conservation in Scotland since 1975, when the public was subjected to the chaos of the last re-organisation. I make no excuse, therefore, for looking back at some of the achievements of Lothian Regional Council over these years.

To review the statutory plans of the Councils, the Structure and Local Plans, is not something which many will do voluntarily but, they illustrate how much more detail and attention is given now to wildlife protection and enhancement through strategies and policies. The real test, though, is what does this mean in terms of action on the ground?

One of the first acts of the Regional Council in 1976 was to set in motion the development of a project to improve the environment of the Central Belt of Scotland. Today, still working hard, planting trees, creating nature reserves and village nature parks, amongst other things is the Central Scotland Countryside Trust. The work towards the creation of the Pentland Hills Regional Park began in the same year with the establishment of the Ranger Service. One of the treasures of the Park is Bavelaw Marsh and in 1979 that was declared a nature reserve by the Regional Council.

Also in 1979 Gladhouse Local Nature Reserve was designated. It is one of the most important wildfowl refuges in Lothian with a significant number of Pinkfoot Geese arriving each

autumn. Nature reserves, however, demand expertise and resources and quite early on it was recognised that the Council would be unable to manage the many potential sites which warranted such protection. Instead it developed a partnership with the Scottish Wildlife Trust which has been long and fruitful. The consequence of this was the leasing of Tailend Moss SSSI to the Trust in 1978; Hermand Birchwood SSSI in 1983 and North Addiewell Bing in 1987. In 1990 an international geological site, Petershill SSSI, in the Bathgate Hills, was handed over to the Trust followed by part of the Linhouse SSSI in 1991. There has also been the Bogburn Flood Lagoon conservation agreement of 1994. All of these sites are in West Lothian which perhaps illustrates the richness of an area more commonly associated with a more impoverished environment. That said, there should also be mention of one important small parcel of land that was handed to the Trust as an extension of the Trust's Bawsinch Reserve, in Edinburgh, in 1991.

The SWT is not the only partner since in 1989 an attractive woodland at West Calder was handed to the Woodland Trust. In addition, two village nature parks have been established on land leased to the Central Scotland Countryside Trust in West Lothian.

The richness of many of the Council's reservoirs and the possible conflict between conservation and recreation was reconciled by the publication of a comprehensive recreation strategy in 1990. This in turn has led to management plans for Harperrig and Threipmuir Reservoirs in the Regional Park. In 1994 the plan for the West Water Reservoir in the Borders was completed. This water area can attract an incredible 40,000 Pinkfoot Geese in the early winter - which gives the Council a responsibility for looking after 20% of the UK over-wintering population of the species.

Countryside management with nature conservation to the fore is a major task of the Edinburgh Green Belt Trust which the Council jointly established with East, Mid and the City of Edinburgh District Councils as a demonstration project in 1987. Its full Trust status came in 1991. Co-operation also came for the appointment of Lothian's first Farming and Wildlife Adviser in 1989, a post now occupied by Tony Seymour. The farming landscape of the Lothians is not one easily influenced by local authorities and so FWAG was seen as a means of providing independent advice and guidance to farmers. Jointly funded by Scottish Natural Heritage, the Regional and District Councils and the farmers, the adviser is making important inroads within the farming sector.

With that element covered, what about the conservation of rocks! The SWT has an excellent system of identifying locally important wildlife sites but no system has existed for geological features. So in 1992, the Council spawned Scotland's first RIGS (Regionally Important Geological Sites) Group. Made up of volunteer experts it has set itself the target of creating a network of RIGS across the region for education, interpretation and research. Chance should have it that the first RIGS to be confirmed was Torphin Quarry, owned by the Regional Council, showing a cross section of two lava flows which bring into focus the volcanic history of Edinburgh.

The list could go on and on. However, it would not be complete without mention of the Dutch elm disease control work which was begun in 1976 by the Council and which is now largely managed by the City of Edinburgh District Council. This indeed was the subject of my first article for the Natural History Society in 1977. Since then, of an original elm population in the City, well over half have been felled. However, with no control campaign it can be surmised that all would by now have disappeared from the Edinburgh townscape and we would be the poorer for it.

European Nature Conservation Year - 1995 will be a time for looking back, but the programme of events being staged by the Regional Council and its partners will also look forward. The programme will be published and publicised during 1995 as one of its swan songs. However, while we can reflect that a lot has been achieved since 1975 we must "look to the future" since there is still an awful lot waiting to be done.

Dr J C Sheldon

THE SPIDER *Erigone aletris* IN LOTHIAN

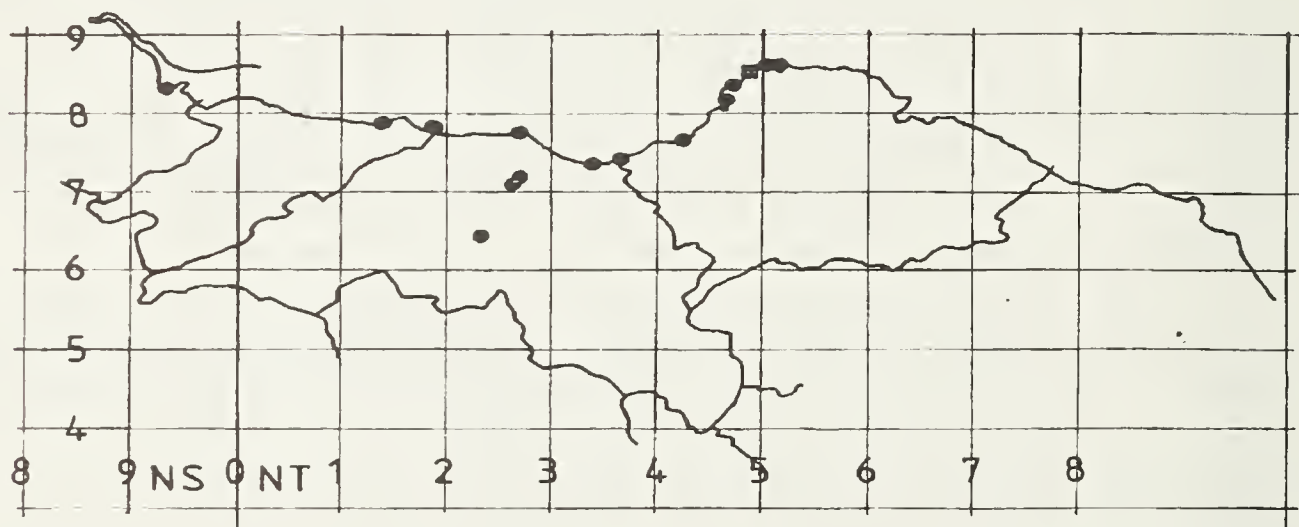
In the Journal for 1986 I contributed a short piece on 'Rare Spiders in Lothian', mentioning in it the Linyphid species *Erigone aletris* (Crosbie and Bishop), which had been found near Gullane in 1976 and described as new to Britain in 1980.

With one exception (Grangemouth Docks), it is still known in Britain only from Lothian but since 1986 it has been taken at points along the coastline both east and west of Leith Docks, the point which, I thought, could well have seen its immigration from eastern North America.

In the last couple of years its spread away from the coast has been confirmed with specimens taken at Bawsinch, Newington cemetery, and Boghall Glen. This latter site provides, as yet, the highest altitude (230m asl) for the species in our area.

The present known distribution is shown on the sketch map which is drawn according to the old Watsonian Vice-county boundaries for East, Mid and West Lothian. The square spot indicates the site of the initial capture, and the round dots confirmed presence since then.

Migration of this type of small 'money spider' is normally by 'ballooning', a process by which, given suitable conditions of thermals and air currents, the animal pays out a strand of silk until it is long enough to carry the producer up and away with the breeze. I have seen *Erigone aletris* actively doing this on the sea wall at Musselburgh lagoons. If we accept Leith Docks as the point of entry, the bias of known distribution would appear to be in keeping with the prevailing wind direction.

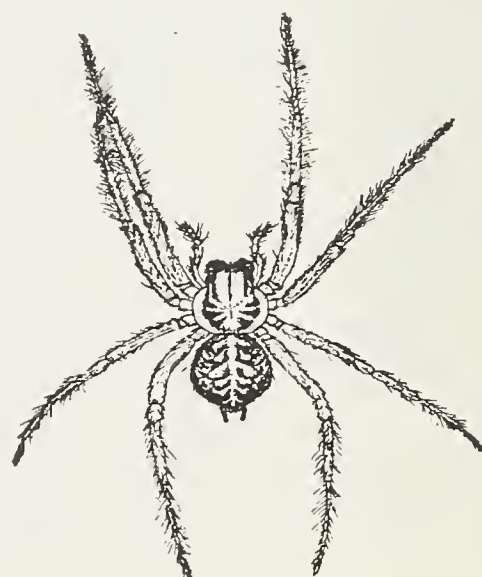


Jim Stewart

Can you help our spider-man?

Aware of my interest in spiders, a number of members have told me about the 'huge, hairy, creepy-crawly beasties' they have encountered in their garden, cellar or house. These animals, if not harvestmen, will most likely be one of the *Tegenaria* species, the two largest of which can be separated only by close examination of their genitalia.

I have only a few records of their existence in the Edinburgh area so may I ask for help from any member who is willing to catch each specimen and put it in a box, thereby bringing to an end its search for a female (for it is most likely to be a male). Once securely containerized give me a ring on 0131-447-4210 and I will come and collect it.



Tegenaria sp.

Jim Stewart

EMPERORS ENTER EDINBURGH

No, not moths but dragonflies! The Emperor Dragonfly, *Anax imperator*, occurs commonly in South England becoming scarcer further north (unpublished records, Biological Records Unit, ITE, Monks Wood). It had never been recorded from Scotland until, at the end of June 1994, I got a phone call from a resident in the Morningside area of Edinburgh to tell me she had Emperors emerging from her garden pond.

The male Emperor is one of the largest of the British dragonflies being over three inches long. It is brilliantly coloured with bright blue predominating and is to be seen hawking round the outer edge of reed beds in lakes and ponds, well out over the water. It has a fast powerful flight and seldom settles near the watcher. The females are slightly smaller and more greenish in colour. Both sexes have a dark line down the centre of the dorsal side of the abdomen.

The flying insects were never seen, but there was a total of six exuviae, the cast skins left behind on sedges and grasses when the winged insects develop and emerge from the fully grown larval stage. Besides other diagnostic features, the exuviae of this species are enormous compared to those of our largest resident species such as the Common Hawker, *Aeshna juncea*, and their identity was readily confirmed.

Was this a genuine first appearance of the Emperor in Scotland? Were we about to witness the establishment of a breeding population of this southern species so far from its normal range? It transpired that the garden pond had been created in June 1992 and had been planted up with submerged and emergent aquatic plants. All of those plants had been obtained from a supplier in Hampshire. In June 1993, the observant owner saw unidentified blue damselflies emerging and also noted dragonfly larvae about an inch long in the water. Emperor Dragonflies in England usually have a larval life of 2 years (Corbet et al., 1960). In June 1994, in addition to the Emperors, blue damselflies again emerged and two Large Red Damselflies, *Pyrhosoma nymphula*, were seen flying in the garden.

Certainly the Emperors, probably the blue damselflies and possibly the Large Red Damselflies had all been introduced as eggs in the aquatic plants from Hampshire. The chance of a viable population of Emperor Dragonflies resulting from this accidental introduction is very remote. Large Red Damselflies also usually have a larval life of two years so could well have been similarly introduced though this species does occur in Edinburgh. Part of a shattered specimen of a blue dragonfly that had died during emergence enabled me to determine it was of the genus *Coenagrion* but which one of the two possible species we still do not know. It is likely to be *C. puella*, the Azure Damselfly, but could be *C. pulchellum*, the Variable Damselfly. The former occurs in the Edinburgh area and has good populations in SW Scotland, through the Borders and into Fife. Interestingly, its most northerly reported station, near Memus in Angus, resulted from an accidental introduction to a garden pond in the mid-1970's. The population was still viable some ten years later (Prendergast 1986).

Garden ponds are deservedly popular. The many garden centres and other suppliers all over the country, catering for the demand for aquatic plants, undoubtedly increase the chance of accidental introductions of *Odonta* and other invertebrate species outwith their normal range. This factor must be considered when evaluating records.

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- Corbet, P.S., Longfield, C. and Moore, N.W. 1960 *Dragonflies*, Collins, London. 260pp.
 Prendergast, E.D.V. 1986 Northernmost record of *Coenagrion puella* (L): an introduction. *J. British Dragonfly Soc.*, 2(2), 28-9.

E M Smith

KINDROGAN

The Field Centre.....

Many of us will have enjoyed a weekend or a whole week at Kindrogan Field Centre. Through the wide range of courses which are offered many people have had a first experience of a new group of plants or animals. The courses vary in depth and level. The weekend courses offer a useful way to sample a new subject and the intention in the future is to grade the courses more precisely as to whether they are intended for beginners or those with more experience.

Over the morning and evening meals there is a cheerful exchange of sightings between the members of different courses. A certain amount of rivalry sometimes develops as the "flower people" report birds to the "birders" and vice versa. All the tutors are willing to attempt to identify the species which people have seen in between looking for their chosen group. One of the most enjoyable aspects of being at Kindrogan is being among other people who will all show an appreciative interest in a wide variety of natural history themes.

The Centre has seen many changes since the house was first bought thirty years ago. Kindrogan is a large country house nine miles east of Pitlochry. It is a beautiful setting with the River Ardlie nearby. The house is overlooked by a spectacular crag and many interesting and varied habitats can be reached on foot in the immediate vicinity. Kindrogan has reached an exciting stage of development. Due to generous grants several phases of building work on the old farm steading behind the house are now reaching completion. This gives a high standard of accommodation and additional teaching areas. A new Director, Alison Gimingham, has been appointed and already has ideas for new courses.

The Scottish Field Studies Association runs the Centre, the only one of its kind in Scotland. Membership of the Association makes a positive contribution to the running expenses of Kindrogan. As with all organisations these are not easy times financially and the Centre has lost the government grants which made a significant difference towards breaking even. A recent offshoot of the Association is the "Friends of Kindrogan" group who meet at the Centre on two weekends a year. These weekends offer an opportunity to make a practical contribution to Kindrogan with active work on conservation, maintenance of nature trails, gardening and general assistance which people offer from their varied skills.

If you would like a programme write to:

Kindrogan Field Centre, Enochdhu, Blairgowrie, Perthshire, PH10 7PG;

if you are interested in becoming a member of the Scottish Field Studies Association, write to:
Heather McHaffie, Membership Secretary, SFSA, 180 Granton Road, Edinburgh EH5 1AH

Heather McHaffie

.....and one of its courses

A Fern Weekend-October 1994

"If you know these three ferns you'll be able to recognise 75% of the ferns you are likely to see." Encouraging words for a beginner on a Fern Weekend at Kindrogan. We examined the three fronds Heather was brandishing - Male (*Dryopteris filix-mas*), Lady (*Athyrium filix-femina*) and Broad Buckler (*Dryopteris dilatata*) - noting the overall shape and the arrangement of the pinnae. Heather's clearly drawn diagrams helped to guide us as to what to look for on the back of each pinnule: Is there an indusium? If so, is it linear, kidney-shaped or comma-shaped?

Once the rain had stopped on Saturday morning, we set out to explore the grounds of Kindrogan and, of course, the first ferns we saw were in the other 25% - Wall Rue (*Asplenium ruta-muraria*) and Black Spleenwort (*A. adiantum-nigrum*). However we soon found the more common types including Male Fern - or was it? The scales were golden and abundant and the pinnules were blunt-edged - Golden-scaled Male Fern (*Dryopteris affinis*). To confirm it there was the black spot at the foot of each pinna at the junction with the rachis.

A trip to Faskally in the afternoon reinforced what we had learned in the morning, as well as adding new species. The autumn colours were magnificent and the pale yellow, almost white, of the dying Lady Fern (*Athyrium filix-mas*) and Lemon-scented Fern (*Oreopteris limbosperma*) showed up beautifully. Beech Fern (*Phegopteris connectilis*) had also suffered from the frost but we did find a good enough specimen to show the distinguishing backward pointing two lowest pinnae.

A search in the gathering gloom back at Kindrogan failed to find Oak Fern (*Gymnocarpium dryopteris*) but we saw a fine example of it on the logo on Heather's sweatshirt!

On Sunday we headed for Glenshee, but with many stops to look at the geology of the valley - our leader was a mine of information - and to allow time for the rain to stop. Fortunately it was dry as we scrambled up a steep slope, with many halts to look at other items of botanical

interest, in a hunt for Holly Fern (*Polystichum lonchitis*). We found it in abundance among the boulders, along with Maidenhair Spleenwort (*Asplenium trichomanes*) and Green Spleenwort (*A. viride*). Then it was down the road with just time to look in a small pool for Variegated Horsetail (*Equisetum variegatum*) before the rain started.

In the afternoon we visited Rattray where, beside the very swollen fast-flowing river, we found Hard Shield Fern (*Polystichum aculeatum*) and Common Polypody (*Polypodium vulgare*). There was just time, back at Kindrogan, for a look at the garden in which Heather has planted a number of ferns. Once they are established they will form a good introduction to the study of ferns.

Over the two days, we looked at over two dozen different ferns. Some are unlikely to be confused e.g. Hard Fern (*Blechnum spicant*) and Hart's Tongue (*Phyllitis scolopendrium*), but, for the rest, this course provided a really sound foundation on which to build a deepening appreciation.

Frances Dunn

Some of the Kindrogan courses for 1995

	Date	Title	Tutor
Weekend courses	26-28 May	Spring Flowers	Jackie Muscott
		Introducing Lichens	Sandy O'Deare
		Ferns	Heather McHaffie
Week	2-4 June	Spring Birds	Angus Hogg
		Introducing Mosses	Gordon Rothero
		Local Spring Walks	Ron Youngman
	1-8 July	Mountain Flowers	Mike Scott
	17-22 July	Introducing Mosses	Gordon Rothero
	22-29 July	Wildflowers of Perthshire	Jackie Muscott
		Ferns	Heather McHaffie
	22-29 July	Introduction to Scottish Geology	Fiona McGibbon
	5-12 August	Plants, Birds and Insects	Nick Mutch
		Fungi	Alan Outen
	26 August - 2 September		

The weekend courses cost £79 and courses for a full week £260 or slightly less.

FORTH ISLAND SEABIRD COUNTS 1994

The 36th year of the counts was also the second year of the Forth Seabird Group which collates all seabird activities in the Forth area. The spring was a poor one with cold E/N winds over much of May which may well have had a bearing on the breeding seabirds' performance.

For once, the weather was kind to the counters although the Bass trip had to be postponed for a week. There was one hitch - on the fishing boat taking us out to Inchkeith in a force 6 westerly. Three-quarters of the way over the engine developed a slight problem and the skipper, concerned that it might cut out in the confined space of the small harbour there, turned back to Granton. Fortunately the Pilot-boat service was able to help, although, as it could only take four of us, they had to be the chief seabird counters! The others went over to Fife and out to Inchcolm.

As last year, the Shags were again in trouble. In February, there was a wreck of thousands of seabirds down the east coast of Britain with most of them very thin and obviously suffering from food shortage. Although the birds involved were mainly Guillemots there was a goodly number of Shags and the numbers of these breeding were down even on last year's poor totals. However, although the survivors were later than normal in starting to breed, the number of nests with three eggs and of birds sitting tight suggested that there was a chance that reasonable numbers of the young would be fledged. Overall in the Forth the numbers of this species have declined to 20% of its 1992 total. To compare this year's total of 215 nests on Craighleith, Lamb and Fidra one has to go back to 1967 when there were 222 nests which included 132 on the

Lamb and none at all on Fidra. Twenty-five years of increase has been wiped out in two disastrous years.

Following on the large numbers of Guillemots found dead in February, it is interesting that these deaths were not reflected in the breeding counts. Apparently the victims of the wreck were northern birds wintering off our shores. By and large the auks are not doing too badly. Kittiwakes were not so fortunate as they had a very late start to the season with many not even attempting to breed. On islands where some monitoring of breeding success has taken place it is reported that relatively few young fledged. On Fidra, for example, there was an average of 0.1 young per nest - or one young fledged out of every ten nests.

Cormorants, with a total of some 434 nests, have not been nearly so badly hit as their close relatives, the Shags. The Carr Craig birds have now shifted *en masse* to the Haystack. A cream-coloured bird in the middle of the colony was noticed by Ronnie Morris who christened it "Baileys". It did not seem to be breeding but it will be interesting to see how it fares as it "matures".

An Eider/large-gull count organised for the Forth islands by the ITE has provided some interesting comparisons with a similar count in 1987. Eider appear to have increased by about 70% which suggests that the big gulls have little impact on this species. Once again the tiny rock of Inchmickery with 313 nests is an eye-opener. Both Herring and Lesser Black-back Gulls have increased to a total of some 20,000 pairs. Lesser Black-back, which used to be a tiny proportion of the combined 'large' gull population, now constitutes more than a third of the total. The Great Black-back, an incomer to the Forth since the last war, has now gained a foothold on all the outer Forth islands. However, its recorded increase suggests that it will be a long time before it makes any impact on the visiting bird-watcher. It has not yet bred in Inner Forth.

To end on a gloomy note. Brown Rats are now apparently on Inchkeith, almost certainly an accidental introduction during the days of the Animal Sanctuary. Time will tell just what effect they will have on the breeding birds.

Table: Summary of seabird counts for the Forth Islands, 1994

	Bass	Craig	Lamb	Fidra	Eyebr oughty	Inch keith	Carr Craig	Inch colm	Hay stack	Inch mickery	Inch garvie
Fulmar	84	165	2	243	0	473	0	177	0	25	159
Cormorant	0	108	131	0	0	58	4	0	133	0	0
Shag	13	106	36	73	0	10	0	2+	1	10	0
Gannet	?	0	0	0	0	0	0	0	0	0	0
Eider	4	153	6	220	0	323	1	258	0	313	60
Gulls:											
Great B-b	1	7	1	3	0	0	0	0	0	0	0
Lesser B-b	60pr	934	55	492	0	2607	1-2	1669	0	108	11
Herring	230pr	2385	130	1149	45	4977	38	1615	16	108	210
Kittiwake	*	564	160	326	0	440	0	62	0	0	0
Terns:											
Common	0	0	0	0	13	0	0	0	0	92	5
Arctic	0	0	0	0	0	0	0	0	0	0	0
Roseate											
Sandwich	0	0	0	0	0	0	0	0	0	0	0
Razorbill	*	76	36	85	0	55	0	0	0	0	0
Guillemot	*	1940	3200	304	0	59	0	0	0	0	0
Puffin	*	550	1+	135+	0	c300	0	27-75	0	10sites	0

(* = no count, 0 = none breeding)

For most species, the number of nests was counted; for fulmars, the number of sites, not necessarily breeding; for Razorbills, the number of sites; for Guillemots, the number of birds on cliffs; for Puffins, the number of birds seen.

R W J Smith

NOTES ON NATURAL HISTORY 1994

Observations

MA Margaret Abel	SDA Sarah/David Adamson	MC Mary Clarkson
FD Frances Dunn	EF Elizabeth Farquharson	JG Jean Galbraith
EG Ena Gillespie	GM George McDougall	JM Jackie Muscott
EP Eileen/Eric Perry	CR Charles Rawcliffe	MR Mary Robertson
GS Graham Swift	LS Lesley Scoular	JW Janet Watson
26/1/94	A Fieldfare feeding on apples in the garden at Blackhall and observed for a week. (MR)	
22/1/94	A Grey Heron kronking angrily as it was mobbed by two Herring Gulls (Blackhall). (MR)	
2/94	The same twig of mock orange (above a privet hedge less than 20 ft from a kitchen door in the Blackford Hill area) was used as a perch for separate periods of several days by a male and by a female Blackcap. A male Blackcap had used the self-same twig for several weeks in November 1993 and had come to a bird-table even nearer the door. (MC)	
20/2/94	A pair of Siskins at the bird-table (Blackhall) (MR)	
2/3/94	A Lesser Black-Backed Gull at Pilton Avenue, Edinburgh. (CR)	
12/3/94	First Fulmar seen at Yellowcraig. (MR)	
12/4/94	Black Grouse gathered to "lek" near a stand of conifers in Glen Artney. The females looked on as the males strutted around showing off and scrapping. We were first attracted by the noise. Over 20 birds. (GM)	
14/4/94	A weasel at Bawsinch, SWT Reserve. (CR)	
15/4/94	Redwings on grass, Marine Drive, Muirhouse. (MR)	
17/4/94	Tortoiseshell butterfly in the garden, Blackhall. (MR)	
20/4/94	A fall of Chiff-chaff in Craiglockhart Dell. Moschatel (<i>Adoxa moschatellina</i>) in flower; Goldilocks (<i>Ranunculus auricomus</i>) in bud. (MR)	
21/4/94	In Ravelston House Wood, <i>Melanoleuca brevipes</i> near the pond and <i>Melanoleuca cognata</i> where large quantities of garden rubbish is dumped. (EF)	
23/4/94	First Willow Warbler in Craiglockhart Dell. (MR)	
	One cock Shoveler at Bawsinch SWT Reserve. (CR)	
24/4/94	Hopetoun. First swallows seen; Buzzard flying over the Forth; Willow Warbler and Chiff-chaff heard. Tawny Owl in Bog Wood. Bastard Agrimony (<i>Aremonia agrimonoides</i>) at the main gate. (MR)	
	5 species of ladybird in Dalkeith Country Park viz. 7-spot, 2-spot, 10-spot, eyed and orange. Dr Majerus of Cambridge Ladybird Survey confirmed that the last two were new records for the area. The early promise that 1994 might be a productive year for ladybirds was not fulfilled. (SDA, GM)	
29/4/94	At Bawsinch Reserve, three Shoveler, one pair Gadwall, one Ruddy Duck. (CR)	
30/4/94	A badger sett, not previously in the records, found on the raised bank of the disused Roxburgh to Kelso railway line. (ENHS outing)	
11/5/94	Pair of Mallard and pair of Grey Wagtails at the pond in Ravelston House Wood. Chiffchaff heard. Small <i>Psathyrella atomata</i> , which has a glistening cap, in the grass by the pond. (EF)	
14/5/94	Aberlady, NATS outing. Moonwort (<i>Botrychium lunaria</i>). about 3 cm, beside path in dune slacks. Three Morels (<i>Morchella esculenta</i>), and St Mark's flies (<i>Bibio marce</i>). Excellent views of a Sedge Warbler in Buckthorn scrub. (MR)	
22-27/5/94	On holiday in Kintail. Dotterel at close quarters on Sgurr nan Conbhairean and	

- A'Chralaig and a female Ring Ousel giving a lengthy song on the ridge of the Five Sisters. (JG,JW,LS,FD,MC)
- 25/5/94 Singing Whitethroat in hawthorn and Yellowhammer near the A904, West Lothian, NT073778. (MR)
- 30/5/94 At Bawsinch Reserve. One Spotted Flycatcher and a Large Red Damselfly (*Pyrrosoma nymphula*). (CR)
- 2/6/94 *Entoloma clypeatum* found under a hawthorn hedge by the Canal near Craiglockhart. (EF)
- Red Moss SWT Reserve, Balerno. Woodcock roding near the car park, 21.45. About 2000 Black-headed Gulls nesting in Lothian's largest colony. Wood Horsetail (*Equisetum sylvaticum*) on the path leading to the hide. (MR)
- 9/6/94 White Quarries, West Lothian NT074778. Newly hatched Brimstone Moth (*Opisthoptis luteolata*); shrub of Guelder Rose (*Viburnum opulus*). (MR)
- 13/6/94 On holiday in Sutherland. Observed huge waterspouts which were whipped up by a gale force wind and travelled across Loch Stack like sailing ships. (JG,JW,MA,MC)
- A small party of SWT members, with Douglas McKeen, who recognised the plant, had the pleasure of re-discovering *Carex laevigata* (Smooth-stalked Sedge) in Roslin Glen. It looks as if the removal of grazing animals from the meadow below the chapel has allowed this large sedge to flower in the flushes. (JM)
- 16/6/94 Hopetoun, in rough grassland, NT073778. Many Chimney Sweeper moths (*Odezia atrata*). (MR)
- 23/6/94 Masses of White Bryony (*Bryonia dioica*) crawling over Sea Buckthorn (*Hippophae rhamnoides*) at Tynninghame. (EG,MC)
- 23/6/94 Lesser Marshwort (*Apium inundatum*) found in a fresh water pond at Tynninghame, near the shore at the mouth of the River Tyne. The entry in the East Lothian Check List for this species is 'before 1934'. A specimen has been sent to the County Recorder. (EG)
- 26/6/94 A dog observed chasing a stoat up a tree by Boat-of-Garten Golf Course. (EF)
- 29-30/6/94 Orange Birch Bolete (*Leccinum versipelle*) towering above the surrounding vegetation of ground-hugging Bearberry (*Arctostaphylos uva-ursi*) at around 600m on Derry Cairngorm and on Beinn Bhrotain (Caimgorms). (MC)
- 6/7/94 Weasel seen carrying a dead vole on the verge of a minor road north of Stow. (JM)
- 7/94 & 9/94 Some half dozen records of the Silver Y Moth (*Autographa gamma*) scattered throughout the Lothians. It is a migrant to Scotland but there have apparently been a lot of sightings in 1994, and the SWT is interested in records. (JM)
- 12/7/94 At Bawsinch SWT Reserve, a Snout Moth (*Hypena proboscidalis*). (CR)
- 16/7/94 Suicidal Red Squirrel (young and foolish?) narrowly avoided on the road back from Glen Esk. (JM)
- 21/7/94 At Bawsinch SWT Reserve, a Kingfisher. (CR)
- 31/7/94 Scalloped Oak Moth (*Crocallis elinguaris*), on garden spinach, Blackhall. (MR)
- 1/8/94 At Barns Ness, 13 Whimbrel. (CR)
- 4/8/94 A Painted Lady (*Vanessa curdii*), in immaculate condition, was observed on *Buddleia davidii* in our garden in Peebles. (EP)
- Sand Spurrey (*Spergularia rubra*) on the wall of Crail harbour. (MR)
- 6/8/94 *Melanotus proteus* (confirmed by Dr Roy Watling) on a felled log in Spruce wood

near Bowhill, NT426279. Yellow Water Lily (*Nuphar lutea*) in a pond.

(ENHS outing)

Greater Burnet (*Sanguisorba officinalis*) in considerable numbers on roadsides west of St Boswells. This is a plant which "thins out" northwards and only just crosses the border from England.

(DA, GM)

9/8/94 *Paxillus panuoides* on a dead branch in conifer strip, Bavelaw Marsh. (EF)

?/8/94 Terrapin swimming in the pond, Ravelston House Wood. (EF)

13/8/94 *Russula luteotacta*, which turns bright yellow where cut or bruised, found in Devilla Wood. Shoreweed (*Littorella uniflora*), abundant on the shore; one of only 3 known sites in Fife; also Marsh Speedwell (*Veronica scutella*) and Marsh Violet (*Viola palustris*). (ENHS outing)

At Barns Ness, 2 adult and 2 juvenile Yellow Wagtail, 1 Whinchat, 4 Tree Sparrow, and 16 Goldfinch. (CR)

20/8/94 Sand quarry near Blackford at NN880111. Sand Martins and Linnet; Corn Spurrey (*Spergula arvensis*), Wild Pansy (*Viola tricolor*) and Field Pansy (*V. arvensis*), Bird'sfoot (*Ornithopus perpusillus*), Trailing St John's Wort (*Hypericum humifusum*) Parsley Piert (*Aphanes arvensis*), Thyme-leaved Speedwell (*Veronica serpyllifolia*). (MR)

2/9/94 At Bawsinch Reserve, 1 female Wigeon. (CR)

4/9/94 Birds Nest Fungus (*Crucibulum laeve*) on dead twigs in Ravelston House Wood. *Melanoleuca cognata* again found - see entry for 21/4. (EF)

Old railway track between Holiday Inn and Belford. Woody Nightshade (*Solanum nigrum*), French Geranium (*Geranium endressii*), Valerian (*Valeriana officinalis*), Greater Willowherb (*Epilobium hirsutum*), Mignonette (*Reseda lutea*), Yellow Archangel (*Lamiastrum galeobdolon*), Meadow Cranesbill (*Geranium pratense*), Figwort (*Scrophularia nodosa*), Crow Garlic (*Allium vineale*), Hart's Tongue Fern (*Phyllitis scolopendrium*) and Warty Cabbage (*Bunias orientalis*); also Field Maple (*Acer campestre*) and several Grey Wagtails on the Water of Leith. (MR)

11/9/94 Maiden Pink (*Dianthus deltoides*) in bloom on Craigmillar Park Golf Course (Blackford Hill); still in good flower 1/11/94! (MC)

14/9/94 First autumn flight of geese seen near South Queensferry. (MR)

19/9/94 Several plants of Gallant Soldier (*Galinsoga parviflora*) noted near a flowerbed on the corner of Bernard Terrace and St Leonards Street, Edinburgh. My first sighting of this alien whose English name is a delightful corruption of the Latin. (JM)

21/9/94 Red Admiral in Blackford garden until early October. (MR)

On a visit to Cardrona Forest, a Red Squirrel (*Sciurus vulgaris*) was seen. A Grey Squirrel was also in the forest. (E&EP)

25/9/94 A Short-eared Owl (*Asio flammeus*) was clearly seen on the summit of Minch Moor, NT 358331. (E&EP)

27/9/94 A Bee's nest found under leaves of Greater Mullein (*Verbascum thapsus*) in our front garden in Corstorphine. Over the next couple of days, workers repaired the slight damage done to the nest and, for the rest of the autumn, we watched the bees grow ever more sluggish. Once all the bees had died or left, the nest was taken to the Royal Scottish Museum. We hope that the surviving queens are hibernating locally and will establish new nests in the garden next year. The species was probably the Common Garden Bumblebee (*Bombus pascuorum*). (SDA)

18/10/94 Mixed flock of Fieldfare and Redwing at Hopetoun. (MR)

25/10/94	Ten Goosanders observed on Clubbiedean Reservoir.	(JS)
28/10/94	At Bawsinch Reserve, 7 Whooper Swans which took off at 16.27.	(CR)
2/11/94	At Bawsinch Reserve, 2 Bittern.	(CR)
4/11/94	At Crichton, Midlothian, Millipede <i>Melogona scutellari</i> .	(CR)
25/11/94	Flock of Golden Plover (c2000) and flock of Lapwing at Silverknowes; charm of Goldfinch, at least 30 preparing to roost.	(MR)
26/11/94	At Esperton, Midlothian, Millipede <i>Stygioglomeris crinata</i> .	(CR)
12/12/94	At Dunbar, Millipede <i>Brachychaeterema</i> sp.	(CR)
30/11/94	At Bawsinch Reserve, Millipede <i>Craspedosoma rawlinsii</i> .	(CR)
26/12/94	Near Penston village, NT447723, around a dozen curlew feeding inland.	(GS)
29/12/94	At Seafield, Edinburgh, 1 Glaucous Gull (<i>Larus hyperboreus</i>)	(CR)
31/12/94	At Seafield, 1 Forster's Tern (<i>Sterna forsteri</i>).	(CR)

And One for the Birds!

We don't need to be at Kindrogan until supper-time; where should we go on the way? I haven't been to Stormont Loch, so how about that? We're both keen bird watchers after all. Not much of a car park from the way we are approaching. Still, the loch looks interesting and quite a few birds present in spite of the high wind. Mallard, Coot, Little Grebe, not very much variety. It's good to be out of the wind, though, and look, here are some fungi. And there seems to be another loch further on. The trees are beautiful here and we're even more sheltered. Little Grebe again, a Heron, but see at the end there - what kind of ducks are those? We'll try to get a closer look. If we tiptoe quietly behind these bushes we shouldn't disturb them. They are rather like Mallard but the females are too pale and too dull. Have they been having a mud bath? There's a screen of bushes here over the water; we can creep along behind it on this log. Quietly, we don't want to put them up. We're getting really near now - twenty feet, fifteen twelve..... Did we think we were bird watchers? They're decoy ducks!

(Name and address supplied, but not to be divulged!)

WINTER INDOOR MEETINGS - 1994

January: The speaker was Graham Dalby of Scottish Natural Heritage, who described research into Black Grouse. They are protected birds but have declined and have disappeared entirely from southern England. Environmental changes - primarily loss of habitat, and increased fencing which the birds crash into - are believed to be the primary causes. They require sedges and rushes for shelter and spring and summer food as well as moorland berries and heather for autumn and winter feed.

February: Michael Starret, who was to speak on the Pentland Hills Regional Park, was indisposed and his place was taken by Dr John Sheldon and Michael Jones who between them presented aspects of the history of the Park and described the work of a Park Ranger. Some of the more interesting flora and fauna were illustrated.

March: The aims and work of FWAG, the Farming and Wildlife Advisory Group, were described by Jeremy Roberts, the Group's Scottish Technical Officer. Members of the Society were able to appreciate these at first hand during the excursion on 23 July (see the Excursion Report).

April: The contributions to Members' Night were:

Ian McCallum - 'Arran', its geological features as well as its natural history and archaeology.

Betty Smith - described a coral island off Australia, once devastated by guano mining

and goats, but now a haven for wildlife including highly photogenic birds and plants.

Jim Stewart - 'The Daddy Long-legs' spider, and others it might be confused with.

Elizabeth Farquharson - 'Winter Fungi', mostly on wood, with names such as Witches Butter, Earpick, Jew's Ear, Rubber Buttons.

Adrian Newton - 'The decline in mycorrhizal fungi', a possible effect of acid rain.

Elizabeth Landells - the amusing behaviour of overwintering blackbirds and pigeons in her garden.

October: Heather McHaffie spoke on the geological formations around the Lothians, emphasizing the wide range of rock types that had resulted. There were volcanoes of both Old Red Sandstone and Carboniferous age and they were surrounded by sedimentary rocks. The landscape was later moulded by ice, which left thick deposits of boulder clay and caused wide variations in sea-level, apparent along the coast-line.

November: The subject matter for Dr. Stoneman of the Scottish Wildlife Trust was Scotland's raised bogs of which few now survive. He is in charge of a project which aims to locate those still surviving and make recommendations for their conservation. About 10% of Scotland is blanket bog, but there are only about 2500 hectares of raised bog, which have a specialized flora and fauna, able to tolerate the acid conditions. For archaeobotanists they provide cores which trace the variations of climate over thousands of years.

December: The work of the Scottish Wildlife Trust featured again in the talk by Neil Wilcox, who is currently its Reserves Manager. There are some 100 Reserves, covering a wide range of habitats. Overgrazing of grassland and heathland is one of the principal threats to their well-being; to counter it, the Trust culls deer and carries out experiments on sheep grazings. No one was left in any doubt about the importance of the Trust's work.

EXCURSIONS 1993-4

Key for Excursions

B	Botany	Fe	Ferns
F	Fungi	T	Trees
G	General	O	Ornithology
Ge	Geology	Gr	Grasses
S	Seashore	Ent	Entomology

Day Excursions

1993

6 Nov	Musselburgh/Kilspindie
4 Dec	Botanic Garden
26 Dec	Gullane/Sausage sizzle

1994

29 Jan	Gartmorn Dam
19 Feb	Flotterstone
12 Mar	Yellowcraig
23 Apr	Craiglockhart
30 April	Roxburgh circuit
7 May	Elphinstone
14 May	Aberlady
21 May	Inversnaid
28 May	Stow
28 May	Craigleith Is/ Bird count
29 May	Lamb & Fidra Is/ Bird count

Leader

O	Mr C Pountain
T	Mr D Paterson
G	
O	Ranger
G	Mrs M Clarkson
S	Dr D Peacock
G	Mrs M Robertson
O,B	Messrs Swift/Gill
Ge	Mr W Baird
O,G	Mr M Dunn
O	Mr I McCallum
G	Mr J Stewart
O	Miss J Wilcox
O	Miss J Wilcox

4 Jun	Walkerburn	G	Mrs M Clarkson/Miss E Mitchelhill
4 Jun	Bass Rock Is/ Bird Count	O	Miss J Wilcox
11 Jun	Isle of May	O	Mr J Stewart
18 Jun	Fordell Castle	G	Mr G McDougall
25 Jun	Kinclaven circuit	G	Ms V Chapman
2 Jul	Caimwell	B	Miss J Muscott
9 Jul	Lielowan Meadow	B	Mr J Cargill
15-17 Jul	Angus Weekend		
23 Jul	Eaglescairn Mains, Bolton	G	Mr M Williams/Mr G Swift
30 Jul	St Boswells	G	Mr A Buckham
6 Aug	Bowhill Country Park	G	Ranger
13 Aug	Devilla Forest	G	Mrs L Evans
20 Aug	Doune Area	Ge	Mr J Merritt
27 Aug	Cluny House Gardens	G	Mr & Mrs Adamson
30 Aug	Sail on M V Gardyloo	O	Mr J Stewart
3 Sep	Abbey St Bathans/ Duns	G	Mr D Gill
10 Sep	Lomond Hills	G	Mr & Mrs Dunn
17 Sep	Lammermuir Foothills	G	Mrs M Watson
24 Sep	Glentress Forest	F	Mr M Richardson
1 Oct	Roslin Glen	F	Mr A Newton

Evening Excursions

25 May	Bavelaw Marsh	O	Mr J Stewart
1 Jun	Botanic Gardens	B	Mr W Tait
8 Jun	Malleny	B	Mr P Deacon
15 Jun	Roseburn to Dean Bridge	G	Mr C Rawcliffe
22 Jun	Harlaw	Gr	Mr G Swift
29 Jun	Stockbridge to Dean Bridge	G	Miss H McHaffie
6 Jul	Blackford Hill	G	Mr R Baillie
27 Jul	Craiglockhart Dell	F	Mrs E Farquharson

Excursion Reports 1993-4

Gartmorn Dam, 29 Jan

More than 20 members braved the wintry weather to visit the Gartmorn Dam Nature Reserve near Alloa.

Although the reserve itself is relatively new (est 1982) there has been a reservoir there since 1713 fed from the Black Devon by a man-made lade which formed part of the drainage system of the local coal mines.

In 1971, the reservoir was awarded triple-SI class 1 for its tufted ducks. But more recently the diving duck population has diminished as grazing duck numbers have increased. The shallow nutrient-rich water also makes the reservoir a good habitat for pondweed and this resulted in a further triple-SI for its pondweed diversity. In 1993 the pondweed diversity was shown to be receding because of crowding out of the smaller species.

At the Visitors Centre we met the ranger and his colleagues who were to accompany us on our excursion round the reservoir. After a brief introductory talk we set out. And having progressed a few yards along the path we stopped to study the birds on the water - Mallard and Wigeon in large numbers plus Tufted Duck, Teal, Pochard, Goldeneye, Coots, Moorhens and an occasional Grebe (both Little and Great Crested). Further along the path we had a good view of a Heron landing on the island where they nest and two Whooper Swans performed their mid-day fly-past as though to order.

A small diversion took us up the grassy hillside in the area which has been designated as Community Woodland and planted with (minute!) ash and wild cherry trees. We did not spot any of the local Peregrines, but did raise a large flock of Yellowhammers.

Near the end of the reservoir around 250 Greylag Geese allowed us to watch them for some minutes before they took off from their field. Then it was down the other side towards our lunch stop in the hide. Here, those who were not concentrating on food spent their time searching

for the one American Wigeon which was reputed to be among the 1000 or so Wigeon on the water.

After lunch we completed the round trip and most of the party extended the walk by returning to the car park by way of the recently constructed woodland path.

Lyn Blades

Flotterstone, 19 February

On a fine crisp morning 21 members met at the car park for a winter walk led by the ranger, Andrew Howat.

By way of introduction the ranger explained the future plans for woodland thinning and replanting in the Flotterstone Valley. Our walk started in the children's play area beside the burn. As we followed the burn up the glen we were given details of some of the flora and fauna in the area. The commonest flower was Pink Purslane (*Montia sibirica*). No red squirrels had been seen for about 12 years. Recent numbers of moles were the largest known to the ranger. Bird boxes were used by tits.

We proceeded to the tree nursery in the area of the former filter beds. Next we passed the wild flower garden where 6 species of butterfly had been seen. We then came to the waterfall whose beauty was enhanced by the icicle formations and the Polypody Fern (*Polypodium*) growing at the side. On the path opposite, the ranger pointed out the trunks damaged by browsing sheep, deer and hare.

We then climbed a steep slope to reach the south-west end of Glencorse Reservoir which was partly frozen. We enjoyed this less familiar but still picturesque view, and, seeing it in clear light, thought that Glencorse rightly deserved the title "Queen of Reservoirs". Here we had views of Black-headed Gull, Cormorant, Mallard, Goldeneye, and Little Grebe. After passing the waterman's house and having a chat with Gerry Elliot about the history of the water supply for Edinburgh and the reservoir (built by Telford in 1822), we climbed towards Castlelaw, skirted the firing range and sheltered for lunch in a tree plantation where we were joined by a Robin.

After lunch, the sun shone and the party divided, those proceeding to the Logan Burn being rewarded by near sightings of Dipper. Other birds seen or heard during the day were Greylag Geese, Moorhen, Rook, Great, Coal and Blue Tit, Song Thrush, Robin, Blackbird and Wagtail.

All agreed it had been a most enjoyable outing in good weather conditions and we were grateful to the ranger and to Mary Clarkson.

Margaret Jamieson

Beach from Yellowcraig to Eyebroughty, 12 March

On a bright, dry, but windy day, Dr Douglas Peacock led a party of 27.

With the tide advancing, we examined first the molluscs and algae on rocks and pools in the various strata of the intertidal zone, identifying for example, the differing habitats of edible and flat winkles. We then scoured the sand and shingle beaches for shells, identifying a number of species. None, however, was out of the ordinary.

Munro Dunn

Craiglockhart Dell, 23 April

This popular walk attracted several locals who were interested in seeing Craiglockhart Dell from a Natural History point of view.

Starting at the Vet's surgery, which was the old North Lodge of Craiglockhart Estate, we followed the path by the river, passing the 19th century grotto which faces a small waterfall high above the Water of Leith. As with the River Almond walk last year, a mixture of native and introduced species is present, some less welcome than others; e.g. Few-flowered Leek (*Allium paradoxum*) and common Rhododendron (*Rhododendron ponticum*). We found native Wood

Goldilocks (*Ranunculus auricomus*), which is quite rare, the dainty Wood Anemone (*Anemone nemorosa*), Wood Forget-me-not (*Myosotis sylvaticum*) and the delicate flowers of Wood Sorrel (*Oxalis acetosella*). Among the introductions were Fringe Cups (*Tellima grandiflora*) and Fly Honeysuckle (*Lonicera xylosteum*).

Coming to a small "haugh" (area liable to flooding), we found the damp loam colonised by native Ransoms (*Allium ursinum*) and Butterbur (*Petasites hybridus*) competing with the invasive Few-flowered Leek and Japanese Knotweed (*Fallopia japonica*). Miraculously, at the foot of this, the uncommon Moschatel (*Adoxa moschatellina*) flourishes, completing its annual cycle before the taller plants develop. Here we also found Opposite-leaved Saxifrage (*Chrysosplenium oppositifolium*) and a sharp-eyed member spotted the rare Alternate-leaved variety (*Chrysosplenium alternifolium*) beside the stream.

Craiglockhart Dell's famous Hornbeams (*Carpinus betulus*) were just coming into leaf and flower. These trees must have been part of the estate planting in the 19th century of the first owner, Dr Alexander Monro, who built Craiglockhart House in 1823, now surrounded by modern bungalows.

Along the river we saw Grey Wagtail and Dipper. The first migrants had arrived that week and so we heard and then saw Chiff-chaff and later a solitary Willow Warbler. The loud ringing calls of resident Wren were heard continually and in conifers near the Colinton end we heard a singing Goldcrest.

We turned at the bridge beside the waterfall to return along the opposite bank, seeing Lords and Ladies (*Arum maculatum*) and Water Avens (*Geum rivale*) en route. The rare Yellow Corydalis (*Corydalis lutea*) was seen on a wall. We stopped to admire the red Larch "roses" on a mature European species (*Larix decidua*). By this time it was raining and so we wasted little time getting back to the cars.

Mary Robertson

Roxburgh - Kelso Circuit, 30 April

The magnetic attraction of Roxburgh and the Teviot, following on last year's 1 May meeting, drew no fewer than 32 members and friends to this attractive area. The route was below the eastern embankment of the disused Roxburgh-Kelso railway line (as last year), across the Teviot by the footbridge to join the railway line. Due north of the ruins of Maison Dieu, now overshadowed by a grandiose white-faced house, runs a track which took us to the outskirts of a well-kept caravan site, and Blackcap Corner, (so dubbed by one of our members enthralled by the sight and sound of a flock of summer migrants). Then on to the main road crossing the Teviot, to return along its north bank, past the ruins of Roxburgh Castle and the former site of the village.

The first section of the walk, down to the river, is featured in last year's report. The blue and white varieties of Sweet Violet (*Viola odorata*) are locally common here. On the old railway line grew profusions of Common Whitlow Grass (*Erophila verna*), Great Willowherb (*Epilobium hirsutum*) in the wetter parts and, on the banks, both Meadow and Wood Cranesbill (*Geranium pratense* & *sylvaticum*), the former with deeply cut leaves. Also present were Tansy (*Tanacetum vulgare*), Ivy-leaved Speedwell (*Veronica hederifolia* ssp. *lucorum*), Dovesfoot Cranesbill (*Geranium molle*), Barren Strawberry (*Potentilla sterilis*), and Parsley Piert (*Aphanes* sp.). For the bird watchers there were Willow Warblers, Bullfinch, Goldfinch, Yellowhammers, and Long-tailed Tits. From the bridge over the Teviot, a Grey Heron, Dipper, Grey and Pied Wagtails were recorded. Upstream, an elusive Tree Creeper and a pair of Common Sandpipers were a delight to see. But the find here was quite numerous plants of the parasitic Toothwort (*Lathraea squamaria*). Nearby, Orange-tip Butterflies were a pleasant reminder of spring. Further along, plants of note growing in some abundance were Greater Chickweed (*Stellaria neglecta*), Crow Garlic (*Allium vineale*), male and female Butterbur (*Petasites hybridus*) Common Wintercress (*Barbarea vulgaris*), and finally, a small colony of Moschatel (*Adoxa moschatellina*), the "Town Hall Clock".

Even a badger sett was uncovered on this most enjoyable of walks. But the Great Spotted Woodpecker, admired the previous week by Duncan and myself, was, on the day, heard but not seen; maybe on another visit.

Graham Swift

Elphinstone, 7 May

Bill Baird's name is associated with exciting geological outings which he has led in the past, so it is understandable that some of us turned up with hammers on this occasion. However, these had to be left behind as Bill demonstrated another side of his expertise. He has a great knowledge of East Lothian from a natural history and historical point of view and, as always, he shared these with us in a most interesting way.

We visited the ruins of Elphinstone Tower which dates from the 15th century. Much demolition has taken place but records show that it had many small mural chambers and was an outstanding structure in its day with a splendid view overlooking the fertile fields to the higher ground of the Southern Upland Fault. In the past there had been small coal mines in this area but these have been long abandoned. It is thought that Wishart was imprisoned in the Tower before he was taken to St. Andrews and burned at the stake.

We proceeded by an interesting lane and quiet roads to Ormiston Chapel and the ruins of Ormiston House. The estate was owned by the Cockburn family and the house was used by Polish soldiers during the Second World War when unfortunately it was destroyed by fire. The considerable garden and grounds have gone wild but here and there memories of its glory remain. The most outstanding is the Giant Yew Tree. The lower branches sweep down to the ground forming a high dome from the central pillar which is its trunk. We were told that John Knox preached there and it is sometimes used for weddings and other functions. Some unusual findings in the grounds were two types of Butcher's Broom (*Ruscus aculeatus*, *R. hypoglossum*), a member of the Lily family with flattened branches which look like leaves.

Along the way the usual spring flowers were seen, including Woodruff (*Galium odoratum*), and Moschatel or Town Hall Clock (*Adoxa moschatellina*). Whitethroats, Chiffchaffs and Wheatears were a few of the birds we saw as well as the Yellowhammer, brilliantly coloured at this time.

Our last stop before heading home was at Ormiston village which is well laid out with a wide main street. In the middle of this street is a 15th century cross carved from a single piece of honey-coloured sandstone which has weathered the years very well.

Sheila Litteljohn

Aberlady, 14 May

On a fresh sunny day, Ian Thomson, the warden, conducted 15 members along the inland route via the Marl Loch and the edge of the golf course to Gullane Point. The tide was well out, and the main interest lay in identifying small passerines in the many buckthorn copses by sound rather than sight. Sedge Warblers were numerous and prepared to show themselves, and a Lesser Whitethroat was heard, although only by the warden.

Away from the copses, several of the population of about 50 pairs of Reed Buntings were in evidence. We learned that while the Little Terns had been around for about a fortnight, the Arctic Terns, whose numbers had slumped to fewer than 10 pairs in recent years, were only now arriving. Sandwich Terns were diving off the Point. After lunch, the warden left us and we made our way back slowly by various routes in an ever-increasing number of sub-groups, keeping well clear of the tern breeding area.

Munro Dunn

Inversnaid, 21 May

Loch Lomondside was sunny and well sheltered from the easterlies as Ian McCallum led a party of 10 northwards along the West Highland Way, round a loop path which rose up almost above the level of the birch woods and down again, on to Rob Roy's cave and back to Inversnaid, with a short extra leg down the lochside and back.

The local Redstarts eluded us although we saw their nesting boxes specially reinforced with cement to withstand the predations of pine martens. Wood Warblers were seen and Garden Warblers and Pied Flycatchers heard. Both Dipper and Grey Wagtail nest sites were spotted above the waterfall by the hotel.

Ian had a fund of information about the human history of the area; everyone considered the drive from Edinburgh to have been well worthwhile.

Munro Dunn

Bavelaw Marsh, 25 May

On a lovely sunny evening, 13 members turned up to be met at the new, commodious car park by Victor Partridge, a member of the Pentland Hills Ranger Service.

Victor explained that the marsh formed in the 1890's as a shallow western extension of Threipmuir reservoir when the Threipmuir dam was raised 5 feet to increase the capacity of the reservoir. The flooding of this western area resulted in the development of a variety of habitats including open water, wet grassland, willow carr and birch scrub.

The marsh was designated as a Nature Reserve in 1979, the main interest being breeding and visiting wildfowl, but there are interesting lichens to be found and some uncommon aquatic mosses. It is managed by the Pentland Hills Ranger Service.

Of the breeding birds seen from the bird hide, Black-headed Gulls were by far the most numerous (we did not count them but up to 2000 pairs have been recorded) and most easily observed closely, with some nests containing eggs only a few metres away. Great-crested Grebes were seen on the water and, with difficulty, on a nest amongst the Bogbean which had grown high enough to screen the whole bird except for its head. However, Little Grebes provided much more interest as they scurried to and fro across the intervening channels, showing up their coppery-red neck and breast coloration and bright yellow gape in the excellent evening light conditions. Other water birds were Coot, Moorhen, Tufted Duck and Mallard, but only the latter had its family in tow.

On a short walk between the car park and the hide, Willow Warblers were numerous and readily observed, Redpolls were heard, a Reed Bunting sang and showed itself briefly. Not so the Sedge Warbler, which ought to have been present, indeed must have been present in such a habitat, but perhaps the coolish evening air kept it from delivering its lively and varied song.

Before departing for home, and as the light faded, hopes were high for the whistle and croak of a Woodcock, but it didn't come.

Jim Stewart

Stow, 28 May

The morning was fine and bright as about a dozen members and two potential members assembled at the disused goods yard of the one-time railway station at Stow. A stop on the old Waverley route from Edinburgh to Galashiels and beyond, the station functioned from 1848 until 1971, on a line which served many places in the Borders as virtually the only form of

public transport available. The old track remains, and it was along about 3km of this that the outward part of our walk took us.

Before we started off however, we heard that in the distant past Stow parish was one of the three principal seats of sanctuary for fugitives in Scotland, that a church had been consecrated there in 1242, that the ruins in the churchyard date from the 15th century with 17th and 18th century restoration, and that the present church with its 140ft tower, dates from 1876. The tower houses a clock, which, the story goes, was so well known for its accuracy that the train drivers of the day set their watches to it.

Another feature of earlier times, still visible to travellers through Stow, is the old pack bridge with its parapets so low as to be almost unnoticeable. Before its construction in 1655, financed by a collection in the parish, the only means of crossing the Gala Water was by fording.

Our walk followed the dismantled track southwards, close by the Gala Water, to the bridge at Ferniehirst where we picknicked. On the way young rabbits by the dozen appeared then retreated into burrows perforating the banks on either side of the track. Then during the lunch stop, interest was transferred to the antics of two brown hares romping in a field a few hundred metres distant. The return walk followed the original turnpike road from Edinburgh to Selkirk which lies to the west of the Gala Water. Part way back we detoured a short distance alongside the Lugate Water and enjoyed what were perhaps the most attractive surroundings of the day. Most returned to the road back to Stow but a few of the fittest carried on up the valley a bit, then over Stagehall Hill to the car park.

Animal life, particularly bird species, turned out to be less than expected, but the short list included Dipper, Grey Wagtail and Oystercatcher by the water side, Sedge Warbler and Blackcap in scrub, and Long-tailed Tit briefly in a small plot of conifers. Small Tortoiseshell, Green-veined White and Orange Tip butterflies were noted. Of the mammals, the only addition to rabbit and hare already mentioned, was Roe Deer. Those interested in botany had a quiet day, the only find of interest being, apparently, Masterwort (*Peucedanum ostruthium*), at NT449429 in a damp hedge. Introduced as a veterinary medicinal plant, it smells like fennel; the root is strongly aromatic and bitter (MR).

Jim Stewart

Royal Botanic Garden, Edinburgh, 1 June

Having visited the Botanics in the autumn to study trees, this outing was looking mainly at flowers, though we did stop occasionally to look at a few trees such as the "Pocket Handkerchief" tree (*Davidia involucrata*).

Mr Tait, who led us, was able not only to show us interesting plants but to tell us something of the history of the garden, the plans for the future and the thinking behind the layout.

A tremendous amount of planning and re-planning has gone into the new Chinese garden which is being created so that, with the help of the Edinburgh Chinese Association, it should be really authentic - even down to a Ty-ing, that is, a tea-house. Edinburgh already has the largest collection of Chinese plants outside China itself.

We spent some time in the rock garden where again the layout has altered over the years. Different parts of the world each have their own area and there is a tremendous diversity of plants to be seen. The rocks themselves are of interest being conglomerates from the Highlands and red sandstone from Dumfriesshire.

Thanks to a generous donation to the gardens, a new potting shed and propagating area have been built and we were taken behind the scenes to see this area.

Altogether an interesting evening.

Betty Mitchelhill

The Tweed at Walkerburn, 4 June

The starting point was Juniper Bank. We passed through the grounds, by kind permission of Mr Christopher Leng, to the old railway track beside the Tweed and followed this for about two miles in an easterly direction. Progress was leisurely as we had a splendid array of plants to appreciate. Pepperwort (*Lepidium campestre*) possibly aroused the most interest. Others of

note were:- Three-veined Sandwort (*Moehringia trinervia*), Thyme-leaved Speedwell (*Veronica serpyllifolia*), Red-berried Elder (*Sambucus racemosa*), Russian Comfrey (*Symphytum x uplandicum*), Slender St John's Wort (*Hypericum pulchrum*), Lady Fern (*Athyrium filix-femina*), Wood Meadow Grass (*Poa nemoralis*), Toothwort (*Lathraea squamaria*), Hawthorn (*Crataegus monogyna*), still in bud.

The weather was changeable. Green-veined Whites (*Pieris napi*) were the only butterflies noted. Lunch was taken during a shower, but the sun soon came out, as did a pair of Common Sandpipers (*Tringa hypoleucos*). Many Black-headed Gulls (*Larus ridibundus*) were skimming the river, seemingly attracted by a hatch of Mayfly. We enjoyed the song of an invisible warbler, and guessed it to be of the Garden variety. A patch of Wood Melick (*Melica uniflora*) was found

We finally reached Elibank, the residence of Sir Donald and Lady Wilson, who generously allowed us the freedom of the grounds and garden. In the absence of the owners, we were welcomed by Professor Noel Robertson, retired Principal of the East of Scotland College of Agriculture, and Mr W Thompson the gardener. Among many striking trees and shrubs around the house was a Fern-leaf Beech (*Fagus asplenifolia*). Monkshood (*Aconitum napellus*, formerly *anglicum*) and Dames Violet (*Hesperis matronalis*) grew nearby. Some members went on to look at the ruins of Elibank Castle, where a Wood Warbler (*Phylloscopus sibilatrix*) was heard and a Common Buzzard (*Buteo buteo*) was seen.

On behalf of those present, I would like to thank Mary Clarkson and Betty Mitchelhill for arranging such a delightful outing.

Eric Perry

Addendum: During the walk, Mr E J Priestley found a gall growing on oak trees on a hillock near the old railway bridge, and he referred it to the Botanic Gardens for identification. Mr J D Main, Curator, replied: "From the specimen seen it would appear to be an attack of "Green Velvet Bud Gall", *Cynips longiventris*, which is fairly hard to find and uncommon. The gall forms in a dormant bud of the main stem or twig. Males and females emerge from the bud gall in May and their fertilized eggs are laid in the midrib or lateral veins on the underside of the leaf".

Malleny Gardens and Grounds, 8 June

The Society paid its first visit to Malleny House Garden and grounds on a cool but sunny Wednesday evening. Sixteen members attended. The garden is steeped in history and features a magnificent arrangement of 400-year old trees, a topiary arch and a fine selection of hybrid Scotch roses, all in the capable hands of the head gardener, Phil Deacon. Created by Commander Gore-Browne Henderson and his wife, the 3 acre walled garden was given to the NTS in 1968 by Mrs Gore-Browne Henderson. Here is housed the national Bonsai collection of Scotland, which includes a plant over 50 years old and bonsai Laburnum.

A number of delicate Mediterranean plants, growing in an unremittingly heavy soil, had been lost over the past winter, but in the glasshouse *Geranium maderense*, from the Canary Islands, was flowering profusely. Shrubs below the east and north wall include a yellow shrub rose, *Rosa hugonis*, *Potentilla* "Abbotswood", *Lathyrus aureus*, *Erica arborea*, *Euphorbia amygdaloides rubra*, hybrid Scotch rose, *Rosa macrophylla glaucescens*, *R. primula*, *Clematis alpina* and *Geranium renardii*. The central avenue is bedecked with foliage plants - a variegated elder, *Astrantia rubra*, *Euphorbia dulcis*, *Rubus* "Tridel" and *Spiraea x arguta*. The four Yew trees are trimmed every other year, with the aid of a hydraulic fork lift, such is their height.

The woodland has an interesting mix of native and non-native species, and a ground flora suggestive of a long-established woodland.

Due thanks were given to Mr Deacon for showing us round, and the hope expressed that this visit would not be the last.

Graham Swift

Isle of May, 11 June

Nineteen members and friends sailed with about fifty other trippers from Anstruther on a fine afternoon. It was not windless, but as we travelled outwards with the wind behind us it was hardly noticed, except perhaps by those few who suffered the occasional shower of spray from being seated in an environmentally unfriendly position. Leaving the mainland, birds in the air were relatively few, and mostly gulls and Gannets, but as we neared and rounded the north end of the island, parties of auks in flight and on the water increased in numbers in almost inverse proportion to the distance to the shore. Grey seals too became apparent in the sea and on the rocks at this point.

We put in at the east landing, or Kirk Haven, where we were met by the resident warden. Before allowing the party to disembark he gave a short talk about certain features of the island and its wildlife, and advised us about where we might best spend our few hours ashore.

From there our group broke up into three or four small parties, most of whom covered the 1.5km length and 0.5km breadth of the island by various routes, including the aptly named 'Palpitation Brae', viewing on the way a variety of interesting features in addition to the birds and plant life. Bird life consisted mainly of auks, gulls, Fulmars and Shags, all taking advantage of their preferred environments of steep sea cliffs and rocky shores which surround the island. All, that is, except the profusion of Puffins which, it seemed, had used every available patch of soil for nesting burrows, outdoing the rabbits by hundreds to one. Shags were easily approached on their rock pinnacle nests, row upon row of Guillemots, interspersed here and there with Razorbills, lined the rocky ledges, and shared them in places with nesting Kittiwakes. From the top of the west cliffs the sight of Fulmars' stiff-winged gliding using the updraught contrasted vividly with the fast wingbeat of the auks as they dashed constantly between rock ledge and feeding grounds.

In recent years, after a successful reduction of Herring Gull numbers, both Common and Arctic Terns have recolonised the island. Up to the mid-1950s some hundreds of each species bred on the May until pressure of gull numbers drove them off. The re-establishment as breeding species started in 1982 and has since built up to around 100 pairs each. On the occasion of our visit, however, fewer than a dozen birds were seen.

Having been on the Isle of May in the years when nesting gull numbers were approaching 20,000 pairs and were having a damaging effect on the plant life as well as the terns, it was especially pleasing to see a thick carpet of Sea Campion (*Silene maritima*), with patches of Sea Pink (*Armeria maritima*) covering the ground again. Strangely, in the years before domination by gulls, it was the Pink that produced the carpet, all rosy and interspersed with drifts of white Campion.

Near the Kirk Haven stand the ruins of St Adrian's Chapel, thought to be the much altered remains of a Priory founded by King David I. During the last year or two digging has revealed a more extensive structure but there was no archaeological activity on the day of our visit.

The light-houses, three in number, are later structures, albeit the original Beacon was built in 1636 and so was the first ever light-house in Scotland. The light on top of the tower was an open coal burning grate which, on stormy nights, could consume three tons of coal. It functioned until 1816 when the original part of the Tower light was built on the highest point of the island. This is the structure that can be seen in profile from the mainland and which houses the nowadays automatic light. The third light-house, the Low Light, was constructed in the 1840's to maintain the island's warning to shipping whilst the Tower was being changed from a fixed light to a revolving lantern. For nearly fifty years this Low Light has functioned as a bird observatory.

Returning to the boat well pleased with our meanderings from end to end of the island in summery weather, we were somewhat taken aback to learn of the possibility of a rough ride on the return journey, and to note that the protective side curtains had been positioned. Sure enough, on emerging from the lee of the island it was very noticeable that sailing into the wind was a different proposition from running with it. For much of the journey the vessel took on a motion that could be compared to a 'sweezy boat' swinging in two mutually perpendicular directions. Much more water came aboard too, so that a number of passengers were feeling distinctly wet or sick or both by the time we reached Anstruther.

However, after recovering, I'm sure everyone will look back on this outing as a well enjoyed success.

Jim Stewart

Water of Leith, Roseburn to Dean Bridge, 15 June

Grey Wagtails in profusion plus young, a family of Moorhens, Greenfinch and, of course, Wrens, Robins etc, all right in the middle of the city along the Water of Leith. We saw Water Crowfoot (*Ranunculus aquatilis*) in the river; a profusion of flowers on the banks : Herb Robert (*Geranium robertianum*), Bush Vetch (*Vicia sepium*), Comfrey -Tuberous, Russian and Common (*Symphytum tuberosum*, x *uplandicum* & *officinale*) Pink Purslane (*Claytonia*, formerly *Montia sibirica*), Monkey Flower (*Mimulus* sp), and Valerian (*Valeriana officinalis*) to name but a few; and finally Fringe Cups (*Tellima grandiflora*) at our last stop at the weir, just before the Dean Bridge.

Our thanks to Charles Rawcliffe who showed us one of his favourite places, which is well worth a visit. It certainly shows a different aspect of life in the city.

Betty Mitchelhill

Fordell Castle, 18 June

On a dull and windy day, George McDougall led a visit to Fordell Castle, home of Sir Nicholas and Lady Fairbairn with their generous permission.

Fordell first appears in 1210, belonging to Sir Richard de Camera, a Crusader knight. Later, it came into the possession of the family of Henryson or Henderson. The present castle, a 16th century tower house , was built by John Henderson in 1567. Sir Nicholas bought the estate in 1961 and restored the castle and gardens. The chapel, dedicated to St Theoretus was built in 1650 on the site of an earlier shrine.

Walking round the gardens, the splendid Yew and Box hedges separated the rose gardens, the ponds, and the colourful herbaceous borders, all beautifully laid out, the whole enhanced with antique garden furniture. Interesting trees grew - a very ancient Cedar, Wellingtonias, Eucalyptus, Palm, a Dawn Redwood and Katsura. Various Acers added more colour. Ornamental owls appear in various places, and in the porch of the chapel, a real live owl had its home. We walked through the surrounding woods in Fordell glen of Scots Pine, then Spruce and Douglas Fir, and on to a good stand of well-tended Sycamore. Passing over the Keitheny Burn, it was noted that the water was badly polluted by old mine workings further upstream. An old railway used to take coal down the east side of the estate to St David's harbour. Much new planting of trees is to be seen.

Connie Stewart

Grasses around Harlaw, 22 June

Thirteen members gathered at the new Harlaw car park on a breezy but sunny evening to enjoy a walk around the reservoir, and to learn how to identify our ubiquitous grasses. Although a variable family, the *Gramineae* possess a basic vegetative and reproductive structure which, once recognised, can be used to identify the common grasses at a glance. But take a second look to be certain, or refer to the excellent illustrations of C E Hubbard!

What do you look for in the vegetative plant? First, are the majority of leaves expanded or bristle-like? Is the shoot rolled or folded (run between thumb and finger)? Is the plant hairy or glabrous, with or without auricles (claw- or ear-like membranous structure at the base of a leaf, represented by a tuft of hairs in Sweet Vernal Grass (*Anthoxanthum odoratum*)). Often only a combination of two or three features is required for identification. Meadow grasses, such as *Poa annua* (Annual), *pratensis*, (Smooth-stalked), *trivialis* (Rough-stalked) have glossy folded leaves with a boat-shaped tip and two translucent lines (tramlines) along the centre of the leaf. Smooth-stalked has a short, blunt ligule (the other membranous structure at the base of a leaf). Rough-stalked's is more prominent and pointed. A distinctive feature of the Bents (*Agrostis spp*) is the triangular leaf, broadest at the base and tapering to a fine point.

Plants in flower are an easier proposition. Their basic structure is either a spike (spikelets or collection of flowers attached directly to the stem, as in Perennial Ryegrass, *Lolium perenne*); spike-like (spikelets with short stalks, as in Timothy, *Phleum pratense*, and Meadow Foxtail, *Alopecurus pratensis*, with an awned inflorescence); branched without awns, and one-flowered as in the Bents or many-flowered (e.g. the Meadow Grasses); or branched with awns (e.g. the hairy Yorkshire Fog, *Holcus lanatus*).

In addition to these recognisable grasses seen on the walk were, at the car park in a shady situation, Wood Millet (*Milium effusum*), a distinctive grass with broad leaves, long ligule and a large single-flowered inflorescence. On the roadside verge were the strongly folded shoots and branched inflorescence of Cocksfoot (*Dactylis glomerata*); and, in wet areas, the coarse, tufted, long-liguled plants of Tufted Hair Grass (*Deschampsia flexuosa*) with its purplish, awned inflorescence; similar leaved Red Fescue (*Festuca pratensis*), but with hairy and reddish basal leaf sheaths; and the spike-like one-sided inflorescence of Crested Dogstail (*Cynosurus cristatus*).

Graham Swift

Kinclaven Circuit, 25 June

The warm welcome we received from Vida Chapman at the Old Smiddy made a bright start to our outing. Unfortunately the weather was not so cheerful, with conditions ranging throughout the day from damp to wet. In spite of this we had an interesting walk and found a fair number of plants.

Our route took us along the disused (Forfar) railway line and by a woodland track to our lunch stop by the River Tay. The first section of the railway line was perhaps the richest in plants. The area had been grazed by cows for a couple of years, but since 1992 had lain unused and, as a result, lots of seeds have germinated and produced flowering plants. Among those we saw were Cowslips (*Primula veris*), two kinds of Birdsfoot Trefoil (*Lotus corniculatus* & *L. uliginosus*), Hairy St John's Wort (*Hypericum hirsutum*), Common Twayblade (*Listera ovata*), and Small Toadflax (*Chaenorhinum minus*), which is described as a weed of railway tracks.

The second section of the track contained an unusual hazard. The way was effectively blocked by a mass of lime (?), a foot or more high and extending for a considerable distance. Having negotiated this strange surface, we headed for the woods. Additions to the list included Cut-leaved Cranesbill (*Geranium dissectum*), Common and Yellow Figwort (*Scrophularia nodosa* & *S. vernalis*), Pick-a-back Plant (*Tolmiea menziesii*), Brooklime (*Veronica beccabunga*), Monkey Flower (*Mimulus sp.*) and Pink (and White) Purslane (*Claytonia sibirica*).

After lunch by the river, we continued on the path through the woods. Our route followed the course of the river and brought us out in the grounds of the Balathie Hotel. Wood Club Rush (*Scirpus sylvaticus*), was found growing by the path. The final stage of the walk was down the hotel drive and back along the road to the Smiddy. On the way we stopped long enough (in pouring rain, I seem to remember) to admire a large Chicken-of-the-Woods fungus (*Laetiporus sulphureus*) on a cherry tree, and few flowers of the lovely Chickweed Wintergreen (*Trientalis europea*).

Lyn Blades

Stockbridge to Belford Bridge, 29 June

We began our evening excursion at the bridge at Stockbridge. Between Stockbridge and the present coastline to the east the land is flatter and the river meanders around the Colonies and on to the sea. After most of the ice had melted around 12,000 years ago, the sea level was much higher and came over this flatter area up to present-day Stockbridge. Upstream from Stockbridge, the Water of Leith has cut through the rock of the former sea cliff to make a ravine.

We walked through this ravine, seeing the layers of Carboniferous rocks,

approximately 350 million years old, exposed on the steep banks by the river. There were sandstones similar to the type quarried for building stone for a large part of Edinburgh New Town, and shales, which are compacted mudstones. When the surface water seeps through porous rocks like the sandstones it sometimes meets a less permeable layer like the shales and emerges as a spring. St Bernard's Well is a famous spring and the sulphurous waters were taken medicinally. We passed the smaller buildings of St George's Well. We observed damp patches which sometimes ran across the path and these were presumably other small springs.

We walked until we were nearly under Dean Bridge. Here is a good exposure of shale and we found several fossils by raking around in the loose pieces and even breaking some open with our fingers! There were fragments of plants' stems, some of which were the giant Club Mosses which had scaly leaves and terminal cones to bear the spores. A particularly clear shark's tooth was found which looked like a shiny black triangle. As the sharks have cartilaginous bones the teeth are almost all that is left. There were patches of fish-scales but almost the commonest fossil remains were coprolites, sharks' droppings, which were up to 5cm long and showed the spiral form of the gut. There were also minute bivalves called ostracods which gave a speckled appearance to many of the surfaces.

In the Dean Village we left the path to go down by the river to look at the ruins of old mills which once lined the banks. We eventually turned to walk back just above Belford Bridge. Before the last glaciation the Water of Leith flowed east of this point on to join the sea further north-east. Deep channels, now filled by boulder clay, indicate its former course. The effects of glaciation were to deflect the river, swollen with glacial melt-waters, down towards the Dean area where the present gorge was cut, perhaps only 10,000 years ago

Heather McHaffie

Cairnwell or "The Braemar Weekend", 2-3 July

The "Braemar Weekend" started in a small way, as a one-day trip to the Cairnwell, which has a chairlift for the unathletic and fairly easy ridge walking to the limestone outcrops where the more interesting alpinists are to be found. However it rapidly developed into an unofficial ENHS weekend, with all 12 participants staying overnight at Braemar and preparing to tackle the much more strenuous trip to Caenlochan the following day. We also managed to sandwich a brief visit to Morrone Wood, so this description comes in three parts.

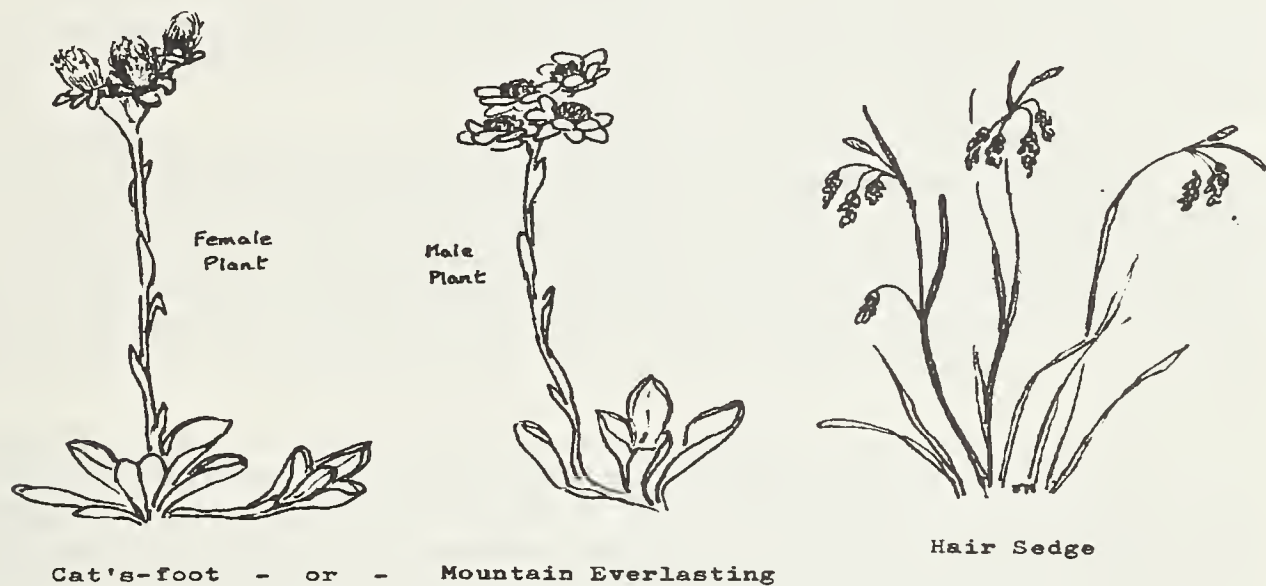
Part 1: Cairnwell

It was a beautiful morning when the party gathered at the foot of the Cairnwell, but cloud was rapidly approaching from the south and reached us just as we embarked on the chairlift - so it was winter woollies again rather than shirtsleeves and sunburn. Most of the Cairnwell is pretty acid so the first plants we came across were typical heath plants; Ling (*Calluna vulgaris*), Blaeberry (*Vaccinium myrtillus*), Cowberry (*V. vitis-idaeus*), and Crowberry (*Empetrum nigrum*). After a bit of a search, we managed to find some young Crowberry berries with withered anthers still attached to the base - proof that this was Mountain Crowberry (ssp. *hermaphroditum*), which as the subspecies name suggests is hermaphrodite and is normally found above 2000 feet. The Crowberry of lower levels (ssp. *nigrum*) is dioecious, that is, the plants are single sex, the male bearing anthers only and the females ovary and stigma but no anthers.

The exposed ridges of the Cairnwell are relatively bare, but there were some attractive patches of Mountain Azalea (*Loiseleuria procumbens*), whose tiny pink flowers must be among the smallest of the Rhododendron family, and a good deal of Stiff Sedge (*Carex bigelowii*), a tough mountain relative of Common Sedge (*C. nigra*) which it closely resembles, apart from being more upright more robust and more triangular in cross-section.

Here and there were patches of Alpine Lady's Mantle (*Alchemilla alpina*) indicating less acid soil, and presently we came to some small but increasingly rich crags and finally to the crumbling patches of exposed limestone. On and around the crags were such classical alpinists as Purple Saxifrage (*Saxifraga oppositifolia*), Alpine Meadow-rue (*Thalictrum alpinum*), Spiked Woodrush (*Luzula spicata*) and a good deal of Dwarf Willow (*Salix herbacea*). Like the Azalea, Dwarf Willow is well-adapted to exposed summits, being small and prostrate and forming dense mats. Like all willows it is dioecious and both male and female plants had catkins.

On the limestone and damp areas nearby were Alpine Cinquefoil (*Potentilla crantzii*) in very good flower, Mountain Avens (*Dryas octopetala*), Alpine Bistort (*Polygonum viviparum*), Mossy Saxifrage (*Saxifraga hypnoides*), Moonwort (*Botrychium lunaria*) and the delicate Hair Sedge (*Carex pilosa*). We managed to find small tufts of the rare Mountain Sandwort (*Minuartia rubella*) on the limestone, but in truth it is a rather smaller and less handsome version of its cousin Spring Sandwort (*M. verna*) found on Arthur's Seat.



At the foot of the outcrops was another dioecious plant *Antennaria dioica* which has at least two English names. The official one is Mountain Everlasting which is really only applicable to the male flowers which are small daisies with large papery petal-like bracts; the alternative name Catspaw is more appropriate to the female flowers which are small furry cylinders. Colours vary from white to pink.

Not far from the limestone is a large wet peaty hollow with a fine patch of Cloudberry (*Rubus chamaemorus*). This well-named plant likes damp acid mountain tops. It is a prostrate shrub with currant-like leaves and beautiful white flowers not unlike Wood Anemones. It is a relative of the Bramble and in due course produces bramble-like fruit, scarlet at first but yellowing when ripe. The Scandinavians, who eat most mountain berries, regard it as a delicacy.

Streams and flushes flow from the limestone into the more peaty areas producing an interesting mosaic of calcicole (lime-loving) and calcifuge (acid-loving or lime-hating) plants, so we had plenty to interest us on the way down. We reached Braemar in plenty of time to find our lodgings and our supper, and still had enough daylight to pay a quick visit to Morrone Wood.

Part 2: Morrone

Morrone Wood is a patch of old birchwood at the foot of Morrone Hill. It was "discovered" by Grant Roger when he worked for the NCC; he was instrumental in getting it made an SSSI and named his home in the Borders after it. We did not have time to search out the Twinflower (*Linnea borealis*) up in the crags, but the lower levels provide an interesting mixture of woodland plants and alpine, heath plants and marsh plants, lime lovers and acid lovers all growing cheek-by-jowl!

The plant list includes Lesser Clubmoss (*Selaginella selaginoides*) a calcicole and Common Sundew (*Drosera rotundifolia*) an extreme calcifuge (found close together); heathy plants like Ling and Petty Whin (*Genista anglica*) with Wood Anemone (*Anemone nemorosa*); Rockrose (*Helianthemum nummularium*) on outcrops; Fragrant Orchid (*Gymnadenia conopsea*) and an assortment of sedges and rushes in damper places; and grasses ranging from Mat Grass (*Nardus stricta*) to the lime-loving Quaking Grass (*Briza media*) - to mention but a few!

Part 3: Caenlochan

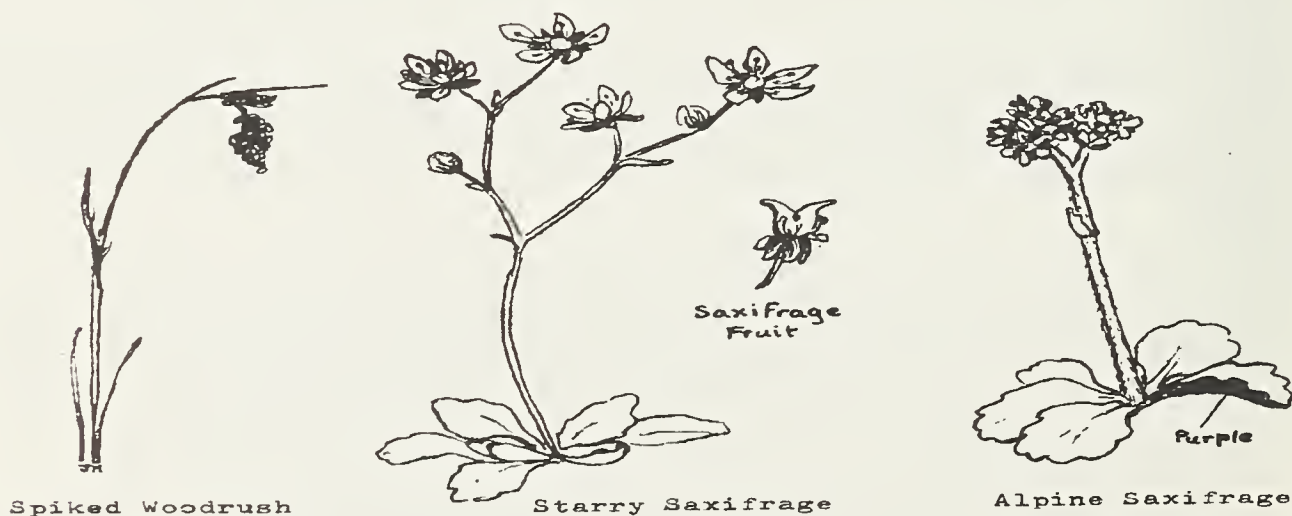
The party reassembled the following morning for an assault on Caenlochan Glen which involved quite a stiff climb over the shoulder of Glas Maol followed by a steep descent. A map and compass are essential for this trip, even on a sunny day, and the weather continued dull with the threat of rain, and mist on the tops. Stretches of snow fencing put up for skiers disfigure the hillside on both sides of Glenshee; not only did we have to negotiate these but there was the added complication of late snow patches. However Mary Clarkson kept a careful eye on us and prevented us from going astray.

We got down to Caenlochan by lunch time and enjoyed the rather impressive view down the glen while we ate. Then we set off to negotiate the base of the cliffs. Sadly our alpine flowers are pretty well confined to cliff faces these days; anything which attempts to grow below is promptly eaten by the sheep and growing numbers of deer on the hills. So there are no alpine meadows, or patches of willow scrub in Scotland.

The base-rich cliffs of Caenlochan (mica-schist rather than limestone) form a beautiful natural rock garden. There were large patches of Moss Campion (*Silene acaulis*) a low tufted plant with bright pink flowers which is sometimes found on grassy summits, together with many of the plants seen on the Cairnwell; Purple Saxifrage, Alpine Cinquefoil and Mountain Avenas. Intermixed were lowland calcicoles such as Kidney Vetch (*Anthyllis vulneraria*), and Early Purple Orchid (*Orchis mascula*), together with quite common plants like Meadow Buttercup (*Ranunculus acris*) and the common Daisy (*Bellis perennis*) which are invariably found on mountains but rarely get a mention.

Larger plants on the vegetative cliffs included Roseroot (*Sedum rosea*), Goldenrod (*Solidago virgurea*) and drifts of Globeflower (*Trollius europaea*) with the rare and distinctive Black Alpine Sedge (*Carex atrata*) just coming to flower. There were a good many ferns in patches of scree below the cliffs, and the three usual "alpine" ferns in rock crevices on the cliffs themselves. Brittle Bladder Fern (*Cystopteris fragilis*) is by no means confined to mountains, but the other two, the rather larger, prickly, Holly Fern (*Polystichum lonchitis*) and the little Green Spleenwort are both confined to base-rich mountain cliffs. Green Spleenwort is a plant which has recently been renamed; its English (and former Latin) name refers to the central stem which is green rather than black like Maidenhair Spleenwort (*Asplenium trichomanes*) which it otherwise closely resembles. The new scientific name *Asplenium trichomanes-ramosus* seems unhelpful since "ramosus" means branched - which it is not.

We were lucky to find an even tinier fern, Alpine Woodsia (*Woodsia alpina*) which looks like a very small Brittle Bladder Fern, but is usually hairy underneath and with fringed spore-cases. The other interesting rarity was the Alpine or Snow Saxifrage (*Saxifraga nivalis*) which looks a bit like a Starry Saxifrage with a very compact flower-head.



We left the flower-cliffs reluctantly and negotiated our way back past the snow patches and the fences to the car park. On the way we saw some Ptarmigan which made a nice end to the day, since our bird count up to then had been quite poor - Meadow Pipits, a few Wheatears, a Sandpiper and a Dipper, plus Common and Black-headed Gulls, Mallards

and a Grey Heron by the pond at Morrone. Other fauna included Red Deer of course, frogs, black slugs and a Wood Ant's nest at Morrone.

Fungi were limited to rusts on Smooth Lady's Mantle (*Alchemilla alpina*) and on the Common Dog Violet (*Viola riviniana*), and a couple of *Omphalinas*. The latter are very interesting as they usually appear in both the fungus and lichen books. *Omphalinas* are usually found in close association with algae, but are mostly not fully lichenised (that is, combined to produce a lichen structure). The most easily recognised is *Omphalina luteovitellina* whose tiny bright yellow funnel-shaped mushrooms are usually associated with a dark green slime (a nice contrast) on wet peat. *Omphalina ericitorum* is less striking, being straw coloured and usually found on *Sphagnum*.

It was a splendid weekend, despite the dull weather, and I should mention that the trip to Caenlochan is considered quite a serious undertaking by Kindrogan parties - so it was good going for a party of "Nats" whose average age I have been bribed not to divulge!

Epilogue

I was lucky enough to visit both Cairnwell and Caenlochan a fortnight or so later when I took over part of the Kindrogan Alpine Flowers course. The Cairnwell had rather "gone over" by then. We had difficulty finding any Alpine Cinquefoil still in flower, or any Spiked Woodrush at all. The latter should still have been visible but must have been grazed. On the east-facing cliffs of Caenlochan however, little had been lost and new plants had appeared - like the beautiful Rock Speedwell (*Veronica fruticans*) splendidly in flower by then, though it had not been visible a fortnight earlier.

J Muscott

Blackford Hill, 6 July

There can be few people who know their local patch as well as Ron Baillie knows Blackford.

A handful of us spent a wonderful evening with him listening to expert botanical knowledge intermixed with the folklore associated with the plants we were seeing.

At Blackford Pond a new island has been made, and although still bare of vegetation, it is proving popular with the birds, mainly Mallard, Coot and Tufted Duck.

This year a Mallard duck has raised her brood in the allotment gardens. As direct access to the pond was barred by the high wall round the allotments, the duck must have shown some ingenuity when it was time to lead her brood out of the gardens.

During the evening we saw many interesting plants including Moschatel (*Adoxa moschatellina*), Sanicle (*Sanicula europaea*), Rough Chervil (*Chaerophyllum temulum*, formerly *temulentum*), Grey Alder (*Alnus incana*), Dogwood (*Cornus sanguinea*), and Guelder Rose (*Viburnum opulus*). We were also shown an Ash Tree (*Fraxinus excelsior*) covered in galls caused by a mite which replaces the flowers and fruit with woody growth. Our walk ended at the Agassiz Rock where, in 1840, the Swiss geologist, Louis Agassiz first noticed that the rock was polished and grooved by the passage of an ancient glacier.

By the time we returned to the starting point we had enjoyed ourselves so much that we hardly noticed that the weather had been awful!

Elizabeth Farquharson

Lielowan Meadow and Quarry, (near Saline, NT093928), 9 July

It took us three passes to find the "Nats" at Lielowan, partly because we were talking too hard and not looking hard enough, partly because the cars were carefully concealed in the farm opposite the advertised layby (which had been blocked). However at the third attempt we saw a large party emerging from the farmyard and were able to join them.

The meadow lies on a steep slope to the south of the B914, quite dry above but increasingly marshy below, with a small stream forming the southern boundary and a pond in the corner. It boasts a dozen or so common grasses including Sweet Vernal Grass (*Anthoxanthum odoratum*) a good indicator of unimproved grassland, and Yellow Oat Grass (*Trisetum flavescens*) which further suggests some base-rich soil, (hardly surprising since there is an old lime quarry just above the meadow on the north side of the road).

Flowers in the dry area include Red, White and Zigzag Clover (*Trifolium spp*),

Birdsfoot Trefoil or Bacon-and-eggs (*Lotus corniculatus*), Catsear (*Hypochoeris radicata*), Buttercups (*Ranunculus spp*) and the Common Daisy (*Bellis perennis*), all common in neutral grassland. More lime-loving, however, are the large Oxeye Daisy or Gowans (*Leucanthemum vulgare*), the delicate Fairy or Purging Flax (*Linum catharticum*) and the rare Salad Burnet (*Sanguisorba minor ssp. minor*) here at the northern edge of its range. (The much larger Fodder Burnet (*ssp. muricata*) is sometimes found, but it is introduced - as at Calder Bing where it is thriving).

The flowers of Salad Burnet are very curious. They occur in tight oval clusters, greenish since they have no petals; the upper flowers are female and produce feathery scarlet stigmas, while the lower flowers are male and produce long pendant bunches of yellow anthers. Flowers half way up may be hermaphrodite and produce both!



Attractive marsh and water plants in the damp part of Lielowan Meadow include Monkey Flower (*Mimulus sp.*), Marsh Marigold or Kingcup (*Caltha palustris*), Marsh Hawksbeard (*Crepis paludosa*), Ragged Robin (*Lychnis flos-cuculi*), Common Spotted Orchid (*Dactylorhiza fuchsia*) and Lady's Smock or Cuckoo Flower (*Cardamine pratense*). There are also large quantities of Sweet Grass (*Glyceria spp.*), rushes and sedges, including large patches of Brown Sedge (*Carex disticha*). Less conspicuous plants include Marsh Arrowgrass (*Triglochin palustris*) by the stream and the tiny Bristle Scirpus (*Isolepis setacea*), both easily missed and as the books say "under-recorded".

Both Marsh Bedstraw (*Galium palustre*) and Fen Bedstraw (*Galium uliginosum*) were present. They are not easy to distinguish at first glance and it is always worth taking a closer look. The leaves of Marsh Bedstraw are fairly blunt at the tip and the plant itself is relatively smooth, while the leaves of Fen Bedstraw have fine points on the tips and the whole plant is quite "sticky" due to hooked hairs on the stem. I never used to find Fen Bedstraw but I look more carefully now and it is not all that uncommon.

I concluded the morning with a lone expedition to the pond to look at Northern Marsh Orchid (*Dactylorhiza purpurella*) which grows there with the Common Spotted Orchid and the hybrid between them.

By this time the day had definitely deteriorated and a fine rain was falling. Everyone had retreated to their cars for lunch, and some departed at this point. However a number of hardy souls decided to stay on and explore the old lime quarry; apparently there are plans for its "development" which would lead to the destruction of some rather interesting plants.

Among the common weeds and grasses are to be found a number of plants which tend to colonise dry areas like old bings and railway lines: Wild Strawberry (*Fragaria vesca*), Thyme (*Thymus polytrichus* - it has just changed its name again), Black Medick (*Medicago lupulina*) and Thyme-leaved Sandwort (*Arenaria serpyllifolia*); plus wet area plants such as the orchids already seen in the meadow, Ragged Robin and Quaking Grass (*Briza media*). There was also a nice patch of Twayblade (*Listera ovata*), some half dozen ferns including Hard Fern

(*Blechnum spicant*) and Lemon or Mountain Fern (*Oreopteris limbosperma*), some Wood Horsetail (*Equisetum sylvaticum*), and most exciting of all, quantities of Stagshorn Clubmoss (*Lycopodium clavatum*) and Alpine Clubmoss (*Diphasiastrum alpinum*).

This is an extraordinary collection of plants. The Alpine Clubmoss in particular is rarely seen at such low levels; it is normally found on mountains, often high on exposed ridges. The only sites where I have seen a similar range of plants are one or two remaining oil-bings of West Lothian, and Alpine Clubmoss occurs on only one of these. It would be a shame if such an unusual community were to be destroyed.

There was also a small pond with some water plants and a lot of tadpoles. The quarry itself is of some geological interest, and fossils are to be found in rocks on the old track which leads into it, though it is not clear whether the rocks come from the quarry itself or some other location.

Despite the weather a number of butterflies and moths were noted, mainly lying low in the vegetation. Butterflies included the Green-veined White and the Small Heath, while the Ghost Moth, the Yellow Shell and the Silver-ground Carpet Moth were found in the meadow, and the Six-spot Burnet Moth in the quarry.

Other insects included the Common Blue Damselfly lurking in the rushes and quantities of small black beetle larvae which were busy munching through Hogweed leaves reducing them to a lacy skeleton. Any ideas what they might be?

J Muscott

Angus Weekend, 15-17 July 1994

The weekend began with 25 members meeting at Loch of Kinnordy RSPB Reserve at Friday lunchtime. This shallow marshy loch fringed by woodland provides superb feed and shelter for ducks and their young.

Kinnordy. There are now three hides and good views were obtained of the ducks including Ruddy Duck. Kinnordy is thought to have been the first breeding site in Scotland of this American duck. Grebes were well represented and it was a great treat to watch the rare Black Necked Grebe feeding a young one. Other ducks included Wigeon, Tufted Duck, and Teal.

The Reserve is a good place for wild flowers. There was a lovely stand of Greater Spearwort (*Ranunculus lingua*) in front of the swamp hide; one area had a good number of Twayblade (*Listera ovata*) and Melancholy Thistle (*Cirsium helenioides*) and the very uncommon Cowbane (*Circuta virosa*) were also found. Before we left Kinnordy, some members were treated to the sight of an Osprey flying over the loch.

After this, we drove to the Forfar Loch Country Park and walked round the north shore to St Margaret's Inch. There was once a prehistoric lake dwelling here, but it is now home to the Sailing Club. We had an excellent view of a Yellowhammer which we watched for some time, and it was interesting to compare Red and Turkey Oak (*Quercus rubra* & *Q. cerris*) standing together beside the path.

From Forfar we went to our accommodation at Angus House, a residential centre owned by Tayside Regional Council

Glenesk. On Saturday, most members drove up Glenesk to Loch Lee car park. A short walk brought us to the impressive ruins of Invermark Castle (16th century) beside the river, and then to Loch Lee. The loch is fully a mile in length and almost encircled by mountains. The borders of the farm road running to the head of the loch proved rewarding for plants, including Alpine Bistort (*Polygonum viviparum*), Sheep's Sorrel (*Rumex acetosella*), Yellow Mountain Saxifrage (*Saxifraga aizoides*) and some lovely clumps of Common Rock Rose (*Helianthemum nummularium*). The birds were quiet, but Curlew, Wheatear and Meadow Pipit were seen. Some more energetic members of the group reached the Falls of Unich above the Glen where the Lee and the Unich meet.

In the evening we explored one of the two impressive hill forts on a ridge above Glen Lethnot. The White Caterthun was encircled by huge walls of stone, while the neighbouring Brown Caterthun had great earth walls. Back at Angus House, Jim Stewart showed us a video on spiders - fascinating, if not endearing, creatures.

St Cyrus. Sunday was spent at St Cyrus National Nature Reserve in brilliant sunshine. The

area became a Reserve in 1962 and has much of botanical interest due to its position and structure. The dune pasture with a slightly alkaline soil was once a raised beach and is bounded by high cliffs of lava on one side and an area of saltmarsh on the other. The latter is unfortunately in decline as it has not been inundated by seawater for some years, due to the formation of a sand-bar.

We were greeted at the Visitor Centre by a Warden (Fiona Lillie) and she stayed with us for the morning to show us some of the wealth of plants. Clustered Bellflower (*Campanula glomerata*) was one of the high-lights, mostly a wonderful deep purple, but there were also a few of the pale blue and white forms. This plant is near the most northerly point of its range in Britain. We were also delighted to find Maiden Pink (*Dianthus deltoides*). Other plants seen included Carline Thistle (*Carlina vulgaris*), and, beside the path up the cliff, Wild Liquorice (*Astragalus glycyphyllos*).

Fulmars nest on the cliffs and St Cyrus is important as the site of a breeding colony of Little Tern. Unfortunately 1994 has not been a successful year for these birds. Other birds seen included Kestrel, Green Woodpecker, and a Sparrowhawk family.

We are grateful to Jim Stewart for organising this very enjoyable weekend.

Sheila Stuart

Sympathetic Farming at Eaglescairn Mains, 23 July

The 23 members privileged to visit the FWAG (Farm and Wildlife Advisory Group) demonstration farm were most impressed by Mr Mike Williams' conservation work carried out since taking over the running of the family partnership in 1986. Accustomed as we were to walking, being taken around on a trailer was indeed a pleasant luxury. The tour encompassed corner plantings, management of field margins, set-aside, woodlands, shelter belts, along with hedge planting and hedge management. After Mr Williams left us to embark on a holiday, we walked along a woodland ride, gingerly through a rough area of wetland and along a field margin to return to the farm, after stopping to admire a restored mill pond.

The well-selected corner plantings, of mainly birch, rowan and alder, provide cover, shelter and feeding for wildlife, while a ground cover of grasses and herbs is used for ground-nesting birds. Both pheasant and partridge have nested in these corners.

The field margin is the land between the arable crop and the field boundary. It is managed here to the benefit of wildlife and farming operations, with grass strips and game cover strips sown to prevent weed invasion and encourage invertebrates, small mammals and birds such as the Barn Owl. Grey Partridges are being encouraged in conservation headlands through restricted pesticide use. In keeping with EC policy, the farm has 18% quota of set-aside, land that is left to regenerate naturally or sown to a cover crop and managed according to strict rules and regulations. One field has been sown to a FWAG wild flower mixture. The natural regeneration has increased the number of Larks and Lapwings on the farm.

A one hectare area put into permanent set-aside in 1989 under the Farm Woodland Scheme is now the farmers pride and joy; a planting of holly, honeysuckle and guelder rose within a planting of broad-leaved trees. Near the farm, this will be a prominent landscape feature as well as providing shelter for stock. Sympathetic hedge planting and management was the final feature of the morning's tour. A total of 740 metres of hedge has been planted, mostly within existing hedges; all with individual guards to protect from rabbits, and fenced off from grazing animals. The hedges are trimmed every other year to a rough 'A' shape. This encourages thick growth and provides food, cover and shelter for wildlife and game.

On the southern edge of the farm, and straddling Beugh Burn, is a steeply banked ancient semi-natural woodland. Here is growing wild Yew, a rare tree in Scotland. Part of the woodland management has been the clearance of *Rhododendron ponticum* by volunteer workers. Planting is being carried out after extraction of the older trees. Close by was an area of blown sycamore trees, the sale of which kick-started the conservation work, aided by grants, free advice from FWAG and not forgetting the enthusiasm of the farmer. A plant list approaching 70 species was made even on this short walk.

Graham Swift

Craiglockhart Dell, 27 July

On a perfect summer evening, a group of twenty, including a representative from the Water of Leith Heritage Trust, walked along the banks of the river from Slateford, following the footpaths upriver for about 3/4 mile and returning on the opposite bank.

Because of the long spell of hot and very dry weather, fungi were few and far between, but the group showed tremendous enthusiasm and scoured the woodland and river banks in great detail so that the tally of around twenty species for the evening was higher than had been anticipated. Under more suitable weather conditions this stretch of the Water of Leith produces considerable variety as the woodland has Oak, Ash, Beech, Sycamore, Hawthorn, Yew, Scots Pine and Hornbeam. There are many long dead tree trunks in an advanced stage of decay which have produced interesting varieties of *Pluteus* in previous years. In the open areas of grassland one usually finds a pleasing number of Waxcaps, but none was seen on this outing.

Very few birds were around but Grey Wagtails are often seen on the river and the presence of a Kingfisher has been reported.

Elizabeth Farquharson

Maxton Church to St Boswells, 30 July

Nigh on 30 members assembled for this splendid walk along the Tweed in the company of Andrew Buckham, a very knowledgeable and entertaining leader. The day was fine and warm. The Tweed was low, and the path bone dry as a result of the long period of low rainfall experienced over late spring and summer.

Maxton Church, well cared for and tended, was the first point of interest. Originating in the 14th century, it still has a bell cast in Holland in the 16th. From the church the path led down via a set of well-constructed wooden steps towards the river. In part it ran alongside the wall of Benrig House, whose early owners were enterprising and far-sighted; their very early coal-gas plant, ice-house and mule-gin with reservoir for water drawn up from the Tweed were seen on the walk.

Swathes of Butterbur (*Petasites hybridus*), Rosebay Willowherb (*Chamerion angustifolium*) with Codlins and Cream (*Epilobium hirsutum*) and Himalayan Balsam (*Impatiens glandulifera*) lined the bank and 10 beautifully plumed Goosanders (*Mergus merganser*) swam near the opposite bank as we arrived at the river. There followed a delightful walk along the bank, when a variety of plants were observed. Among the more unusual were Betony (*Betonica officinalis*), Giant Bellflower (*Campanula latifolia*), Common and Pyrenean Valerian (*Valeriana officinalis* & *pyrenaica*), Restharrow (*Ononis repens*), Greater Yellow Cress (*Rorippa amphibia*) and Leopardsbane (*Doronicum pardalianches*). Scented Liverwort (*Conocephalum conicum*), collected from rocks by the river, was examined closely. Crossing the B6404 to Kelso, it was pointed out that the bridge, re-built in 1836 after the first bridge erected only 2 years before had collapsed, had remarkably shallow arches. Approaching the end of the walk at St Boswells, dark green circles were observed on the golf course - almost certainly indicating that Fairy Ring Fungus (*Marasmius oreades*) would shortly appear.

There was general agreement that this had been a memorable outing.

Andrew Gilchrist

Bowhill Country Park, 6 August

A small group led by the ranger enjoyed a walk through the part of the estate near the house. The day was fine and our start was earlier than the admission time for the general public and so we saw the grounds looking at their best.

Our morning route was by the lakes and through the woods and we saw a reasonable number of late summer flowers, birds of woodland and water and a variety of fungi. There is no wholesale clearance of timber at Bowhill and there is a great variety in the species as well as in the ages of the trees which is important for amenity and wildlife. After a picnic lunch near

the house, we walked round one of the official "trails" where we found more fungi and heard and then saw a Buzzard flying above an area of parkland.

A small group extended the outing by visiting Hartwoodmyres, a conifer plantation also part of the estate, and only recently open to the public. The views back to Bowhill house from here were superb.

Mary Clarkson

Devilla Forest, 13 August

Richard Smith of Dunfermline District Council Ranger Service, an excellent last-minute stand-in, led members round the long-established Forest Enterprise woodland. It is located largely on nutrient-deficient sands and gravels, but is quite rich in its variety of habitats. It contains several lochs, both natural and artificial. At this time of year, the botanists were inevitably better served than the ornithologists, although evidence for the presence of Crossbills was found. Among the plants the most interesting were Shoreweed (*Littorella uniflora*) and Marsh Speedwell (*Veronica scutellata*). There was also a good number of fungi.

Munro Dunn

Blackford and Callander, 20 August

Jon Merritt of the Geological Survey explained to the sixteen members present how the last (Devonian) glaciation had developed and retreated, with a temporary resurgence, the Loch Lomond re-advance, 10 to 11 thousand years ago. He had taken a great deal of trouble to assemble the necessary explanatory material. He then conducted us around six sites showing evidence of fluvio-glacial action - melt-water channels, deposits left by lakes on the margins of retreating glaciers, kames, kettles and eskers - together with a fine terminal moraine. He explained how the present-day evidence is interpreted. A further ice-age can be expected to be under way within the next 5,000 years unless global warming proves more potent. However, it was likely to be much longer before the next peak of glacial activity occurs.

Munro Dunn

Cluny House Garden, 27 August

We were greeted by John and Wendy Mattingley in their garden northeast of Aberfeldy. This splendid woodland garden was created by Wendy's parents, Mr and Mrs Masterson, from 1950. Prior to that, some large native trees and exotic conifers had been planted, including the widest Wellingtonia in Britain. Mr Masterton grew many plants from seed obtained on the 1948 Ludlow and Sherriff expedition to Bhutan. An attractive example is the Tibetan Cherry (*Prunus serrula tibetica*), with its rich red peeling bark. Cluny is known for its collection of Japanese Acers and Himalayan plants such as Primula, Meconopsis, and Rhododendron.

John received us enthusiastically, keen to show us his populations of fungi, which he had carefully preserved for us by not cutting the grass prior to our visit. He guided us around public and non-public parts of the gardens and explained the principle behind the success of his garden - no bare soil. He showed us the products of his compost and leafmould bins - many of us were impressed. During the morning we collected a wide range of fungi and looked at the plants.

After lunch we tried to identify the collection. We heard a Buzzard and saw a Long-eared Bat flying around the house. Later, John and Wendy led us through their field to the 'Polytunnel' where the species Primula are raised. Finally to the wild garden where plants are allowed to grow freely among the specimen trees.

When the day ended we promised to send the Mattingleys a list of fungi seen and identified. To help with accuracy a party of five took difficult specimens on to Kindrogan for a fungi course.

The gardens are open from 1 March to 31 October, 10am - 6pm and are well worth a visit at any time of the year.

Sarah Adamson

Gardylloo Sail, 30 August

Twelve members of the Society assembled at 07.45hrs and boarded the sludge disposal vessel. After we had been served breakfast, the ship cast off at 08.45hrs, which was later than usual. Once through the lock gates, the ship turned to starboard and headed eastwards past Inchkeith Island keeping near the Fife coast.

I always have some trepidation about going on this trip as I'm not a good sailor, but on this occasion the day was sunny and bright with light and variable winds. Although the wind was not in an easterly direction, we managed to observe 11 Manx Shearwaters, 15 Arctic Skuas, 2 Great Skuas, plus the usual Gulls, Gannets and Auks. The best bird of the trip was an adult Long-tailed Skua which appeared on the return journey just as we approached Leith Docks. It flew across the stern of the ship and past the bridge giving superb views of its long tail streamers.

After returning through the lock gates we were hoping to see a Glaucous Gull, which sometimes roosts in the docks, but on this occasion it was not to be seen with the other Gulls. We disembarked at 18.00hrs.

Bill Clunie

Abbey St Bathans to Duns, 3 September

This was one of our longer walks, approximately nine miles, through beautiful Border country. Because of the time of year and a very dry spell of weather there were few flowers to be seen, but Red Campion (*Silene dioica*), Hedge Woundwort (*Stachys sylvatica*) and Eyebright (*Euphrasia* sp.) were fairly plentiful. Perhaps the most interesting find was Red Bartsia (*Odontites verna*).

We enjoyed watching Grey Heron, Grey Wagtail and Yellowhammer. A Small Copper (*Lycaena phlaeas*) and a Tortoiseshell (*Nymphalis polychloros*) were spotted; while a small Toad added to the objects of interest.

Bright red rose-hips and the leaves of a few trees beginning to change colour warned us that autumn was not far off, but we made the most of a warm sunny day. Our thanks to Duncan Gill for showing us some really lovely countryside.

Betty Mitchelhill

Bishop Hill from Scotlandwell, 10 September

The 16 members present found that the birds and flowers had largely shut up shop. They were, however, diverted by encountering an international model gliding convention, inundated by an exceptional rainstorm, and resuscitated with tea and home-baking at the local church sale-of-work.

Munro Dunn

Lammermuir Foothills, 17 September

Thurston Mains near Innerwick was our starting point for a five mile walk. Some of us covered the first part, along a minor road, at a "Nats" pace, a rate just above dead slow. After all, we had to allow the drivers, who had taken cars to the end-point of the walk, time to catch up; but we did not delay to look at the two huge clumps of Horse-radish (*Armoracia rusticana*), a plant not welcomed by gardeners, followed by a group of Lawyer's Wig (*Coprinus comatus*). And then we saw them; united at last we continued over Elmscleugh land to a valley where lay an old curling pond, completely dry on this Saturday in Mid-September. Over much of its bed grew Amphibious Bistort (*Polygonum amphibium*), whilst round its edge grew long lines of Marsh Cudweed (*Gnaphalium uliginosum*). Past the Bistort we walked over a lovely, soft, green carpet, like an Elizabethan chamomile lawn which, to our astonishment, proved to be made up of the finely divided leaves of Water Crowfoot (*Ranunculus trichophyllus*). Beyond the pond a Plain Golden Y moth (*Autographa jota*) was feeding on ragwort but sat happily, to be admired

on my Shetland wool glove.

We went through fields to a farm of three barking sheep dogs transformed to six by the excellent echo. A hundred or so friendly poultry free-ranged round our feet - were they pleased to greet us or did they sense a potential food-source? A wooded road led us to the "Pylon Walk", which we followed uphill to the High Wood, a suitable place for lunch.

In the gorse bushes nearby, spiders of the species *Linyphia triangularis* were also organised for lunch having covered the bushes with a finely spun scaffolding on which both male and female could be seen upside down beneath the slender threads. One of the males held a small fly, a possible offering to his larger partner. From this high ground the clear air and the lovely light gave us views of the Lothians, Fife, and the islands in the Forth.

In the afternoon, walking along the edge of a steeply wooded gorge we found, at the highest point, a cattle trough filling continuously from a hidden water-source. No pump was visible - could it be that water runs uphill in East Lothian?

Going downwards through fields we reached the path leading through the old, misshapen oak trees of Woodhall Dean with their clusters of sessile acorns. The new bridge allowed us to see the beautiful arch of the old "perilous" bridge over which the grain carts once travelled to the mill. Where felling had taken place the ground was covered with a tall Groundsel (*Senecio x viscidulus*), a hybrid between *S. sylvaticus* and *S. viscosus*. Our last find was a clump of Shaggy Pholiota (*Pholiota squarrosa*) at the base of an ash - and then on to the waiting cars.

We were most sincere in our thanks to the leader, Margaret Watson, who had taken such pains to arrange this most interesting and varied walk.

Margaret White

Glentress, 24 September

Mike Richardson was the leader for this well-attended foray. After a slow start (the recent wind had dried things up a lot) the persistence of this keen bunch of forayers paid off, with a long list of finds including *Paxillus atrotomentosus*, *Macrocystidia cucumis*, *Sphaerobolus stellatus* (on grass debris), *Macrolepiota rhacodes*, *Panellus mitis*, *Inocybe pudica* (white, staining red on bruising), *Peziza badia* and *Calocybe carnea*. The star find of the day was made by Mary Clarkson, who went off at lunchtime to find a "quiet spot" and came back clutching *Spathularia flavida*! Thanks to Mike and to all who turned out to make this a very enjoyable day.

Lyn Davy

Roslin Glen, 1 October

An enthusiastic party led by Adrian Newton enjoyed a day's fungus foraging in Roslin Glen. The morning was spent in the Scottish Wildlife Trust Reserve, an area of mainly broad-leaved woodland on the steep east bank of the River North Esk. After lunch we foraged near the car park, an area with grass, small thickets, path sides and again mature woodland. We found *Armillaria bulbosa* everywhere but there was a long species list and finds included *Tricholoma cingulatum*, *Volvariella speciosa*, *Asterophora parasitica* and *Neobulgaria pura*. Perhaps the most interesting find of the day was a large colony of *Crepidotus applanatus* growing near a fallen beech log. Time whizzed by and most of us did not even notice that, weatherwise, it had been a rather dreich day.

Mary Clarkson

Musselburgh Lagoons and Kilspindie, 3 December

Despite a dreadful weather forecast, and heavy rain an hour before our 11 am start, 15 brave members met at Goose Green for the traditional autumn outing, now nearing its 21st anniversary.

Apart from one brief squall, **no ducking but lots of ducks**. An incoming tide at the mouth of the Esk produced two drake Goosanders - a bonus for Musselburgh - and, alongside

for comparison, a drake Red-breasted Merganser. Goldeneye were diving at the river mouth and beyond on a sand bar we observed a long line of wigeon. An excellent start.

Along the path by the sea-wall there were flocks of Oyster Catchers and overhead, the more acrobatic Godwits; further on, many Mallard were sheltering under the wall. We walked on to see the deeper-feeding sea ducks and were not disappointed. A large raft of Velvet Scoter, a lagoons speciality, was seen quite close in along with Eider, the inevitable and spectacular Long-tailed Duck and yet more Mergansers. A small group of Pochard was observed flying west.

Nine duck species so far, and on the boating lake, Tufted Duck took the total into double figures. Not a bad morning for our now very hungry party! Walking back along the path bisecting the two lagoons Ringed Plover were resting on the lagoon to the left, now virtually filled with ash from Cockenzie power station and in the process of being covered with soil. The lagoon on the right was very different. Sea-water carrying ash from the power station was gushing out of the entry pipe, providing a better lagoon for waders; Knot and Oyster Catchers were present in good numbers.

Most of us were fortified by an excellent lunch partaken at the Wagon Inn when the party, now swollen to 18, re-convened at Aberlady Church for the walk along the west side of the bay and on to Kilspindie Golf Course (or at least the edge of it!). Even more Mergansers now - some drakes actually throwing their heads back in display - and lots of Wigeon too. Because of the full tide, waders were in short supply but several hundred Golden Plover displayed their aerial talents aloft, and in failing light we saw Dunlin, Turnstone, Grey Plover, Godwit, Curlew and Redshank as the tide started to ebb.

As the day drew to an end there was a beautiful 'goose sky', but never a single goose did we see coming in. Yet three weeks earlier, I had watched almost six thousand coming in to roost here. Maybe tide or wind was just wrong - what strange birds!

Though we claimed 10 regular duck species on the day, it could easily have been 13 had Teal, Common Scoter and Shelduck put in an appearance. The Firth of Forth is a great place for wildfowl, but remember the 1950's ? Then we had a staggering 25,000 Scaup off Seafield and Joppa in winter and large numbers of other species too. See a Scaup now and it is so unusual it would make a birdwatcher's day. The good news for us, and the bad news for the birds, is that Edinburgh has cleaned up its sewage problem in recent years; more hygienic for one, less appetizing for the other. Still, however, a great area for birdwatching, and a remarkably good and enjoyable day.

Charles Pountain

NOTES TO CONTRIBUTORS

For preference, contributions should be typed on A4 size paper, in double spacing and with clear margins. However, contributions in manuscript will also be welcomed provided the writing is clear and legible.

In referring to plants and insects, the English name should be followed by the Latin name; this is not usually necessary for birds.

Locations referred to should be identified clearly by place-name or OS map reference.

The contributor's name should be given in full.

Errata, 1993 Journal

pp 10 *The Scottish Projects Trust (SCP)*

A sister organisation of the British Trust for Conservation Volunteers (BTCV). A charity aimed at enabling people of all ages and backgrounds to improve the quality of the environment through practical conservation work. Organised from its HQ in Stirling, and, in Edinburgh shares office space with the Water of Leith Trust.

pp 27, li 36 Should read Dumbarnie Links.

Kath Todd

SOCIETY LIBRARY AND EQUIPMENT

The Society Library is housed in the Water of Leith Conservation Trust Heritage Centre, opposite the 'Tickled Trout' Inn in Slateford. The Librarian, Frances Dunn (Tel. 0131 334 1339), is always pleased to arrange loans to members. A selection of library books is also available for members to borrow at evening meetings.

In addition to books, the Society has various other items which can be borrowed by members for their private use, including LP records of Birdsong with accompanying booklet, and a recording of Grasshoppers. Needless to say, members will be responsible for the care of books or equipment on loan.

- Telescope:** A Bushnell Spacemaster of 20X-40X magnification, in carrying case and a car window mount for in-car use.
Apply to Miss Molly Woolgar (Tel. 0131 667 2688).
- Microscopes:** Seven high -powered microscopes and three low-powered stereo microscopes.
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- Mammal Traps:** Twenty-four small mammal traps .
Apply Mrs Elizabeth Farquharson (Tel. 0131 447 1994).
- Photographic Slides:** A comprehensive slide collection left to the Society by Miss Janet Raeburn. The subjects are mostly botanical. but also include birds, mammals, butterflies and Scottish scenery. They are kept with the Library.
- Bawsinch Key:** The Bawsinch Nature Reserve at Duddingston is managed by the SWT, who allow the Society to hold a key allowing members access to the hide overlooking Duddingston Loch.
Apply to Mr Jim Stewart (Tel. 0131 447 4210).
- Computer:**

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JOURNAL

— 1995 —

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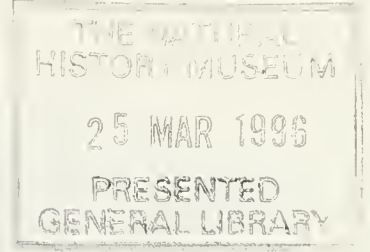
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Contributions can be accepted in a variety of forms viz. on disk in a form acceptable by an IBM-compatible PC; typewritten, preferably on A4 paper with double spacing and clear margins; or in manuscript, provided the writing is clear and legible. If in doubt consult the Editors. Any member who considers he/she has material which would further the aims of the Society or enliven the Journal, in the form of either text or drawing (black and white only, unfortunately), is encouraged to submit it. The dead-line for submission is important; material submitted after the end of the year without prior notification is unlikely to be able to be included.

In referring to plants, insects and fungi, the English name should normally be followed by the scientific name. For birds, this is not usually necessary. Locations should be identified clearly by place-name or OS map reference. The contributor's name should always be given in full.

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Editorial

1995 will stick in the memory as a year with an exceptionally hot, dry summer and a long mild autumn. Northern England suffered a severe drought and, in the north of Scotland, there was the unusual sight of gritting lorries brought into use in the height of summer to spread sand on road surfaces made slippery by melting tar. It was the sort of summer we experience only once every twenty or thirty years. Yet, in this area, as our excursion reports show, there were a significant number of wet days particularly in early summer. One of our members, Munro Dunn, has this year achieved the nowadays rare feat of completing 30 years of rainfall observations at a single site (in Corstorphine). This is the period officially recognized as being long enough to define the local rainfall 'climate' - long enough to iron out the exceptional values, and give meaningful 'average conditions'. Munro's observations (pp3) demonstrate that overall 1995 around Edinburgh was not notably dry, though a substantial part of the summer was, and more would have been had not some very heavy thunderstorms occurred. (We recollect being forced to stop on our way back from Dawyck on 14 July, because the road was awash, although our garden at Alnwickhill had barely a drop of rain that day.) These weather conditions form the back-drop to the Society's activities and had a substantial influence on the natural history - a good year for many insects, but not so for the Azure Hawker (pp11); a good year for bringing on but also for shortening the lives of flowers; a good year on the whole for bird populations which found abundant food; and a late but, when it came, a glorious year for fungi. All of these are illustrated in the reports in the Journal which we hope form an interesting record of an interesting year.

In the end, the quality of the Journal is determined by the quality of the reports and articles that are submitted. We would like to thank all the contributors but particularly those who responded so generously to the editor's badgering for articles. As a result it has been possible this year to produce a considerably larger Journal with a greater variety of articles. We hope that next year will produce a similarly ample supply of material from members.

We wish to thank those who have contributed to the production of the Journal, particularly those who have read the proofs to correct our mistakes and Mrs Anderson who again served the Society well in scanning the diagrams on to disk.

Andrew Gilchrist

Bill Harper

Bill Harper, who died this autumn, was born in Brighton and went on after school to read physics at Imperial College and then proceeded in 1937 to his chosen career as a meteorologist in the Bermuda Meteorological Service. Wartime saw him in uniform mainly assisting the USAF.

After the war, he was assimilated into the Meteorological Office and before long went to work at Lerwick observatory where his great interest in watching birds was stimulated. From Shetland he spent holidays with the family on Fair Isle and got to know some of the country's leading ornithologists. His next posting, to study weather systems by radar, led to a conjunction of his professional and leisure activities when he found that the 'angels' he observed on his radar screen were often caused by flocks of birds on migration. The exploitation of this discovery led him on to presenting lectures to a wider audience and to his describing his findings in a Royal Society paper. Later postings in the Meteorological Office took him to Malvern, Aden and Germany and these, with the trips he was able to make from these locations enabled him to study birds in many habitats.

His final posting in 1973 was to Edinburgh. Soon after, he and his wife Hetty joined the ENHS and became familiar figures at functions. His retirement in 1977 allowed him to devote much of his time to watching birds and serving the Scottish Ornithologists Club.

Rainfall in Corstorphine, 1995

1995 may go down in memory for its summer sunshine and its exceptionally open, frost-free autumn, and these features will no doubt have been reflected in some of the natural history observations recorded elsewhere in this journal. An annual rainfall of about 750mm (nearly 30in) as compared with the long-term average of 680mm (27in) may, however, suggest that in Edinburgh that aspect of the weather was unremarkable. This average, however, as so often happens, conceals a number of noteworthy features.

Figure 1 sets out the average rainfall for the site at Corstorphine month by month for the period 1966-95, along with the lowest and highest monthly values recorded in that period.

Monthly Rainfall values in millimetres

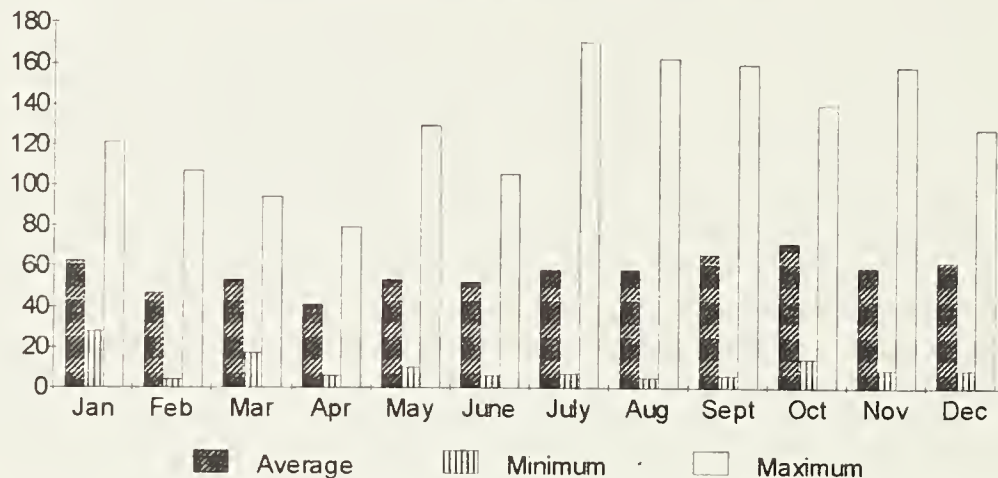
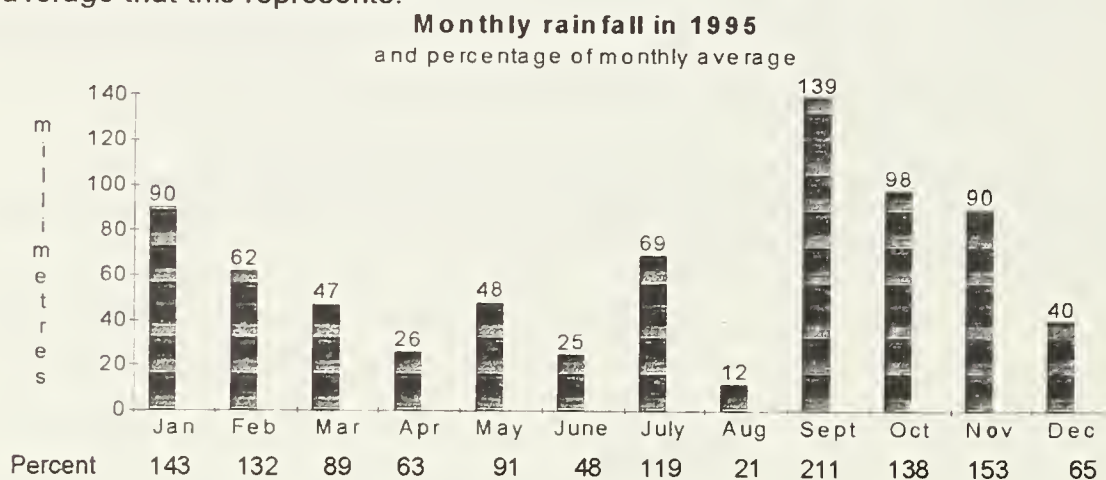


Figure 2 shows the rainfall for each month of 1995 along with the percentage of the monthly average that this represents.



The winter (December-February) of 1994-5 was appreciably wetter than average, although January and February were free of the sort of exceptional fall which had produced widespread flooding in the Glasgow area in December 1994 and which had given Corstorphine 54mm in 24 hours. The winter's 250 mm was 45% above the average. However, the winters of 1989-90 and 1993-4 were both wetter.

Although Edinburgh's rainfall is not markedly seasonal, spring is normally the driest season, and in 1995, rainfall in all three spring months fell below the long-term average. The overall spring total of 121mm was nearly 20% below average. No daily reading appreciably above 10mm occurred, and from 25 April to 6 May there was virtually no rain.

The rainfall deficit continued into the summer, the totals for June and August being particularly low although July interrupted this run. The season's total of 106mm was 37% below average, but less than this was recorded in four years in the 70's and 80's. What the monthly averages do not show however, is that 30% of the season's total fell with quite exceptional intensity during two hours of thundery activity on the afternoon of July 14. Judging by flooding reports, this activity was centred on West Edinburgh, with many parts of the Lothians escaping. It is quite possible, therefore, that some parts of the Lothians may have had their driest summer of the 30 years. The eleven days from 21 June to 1 July were completely dry in Corstorphine, and from 21 July to 21 August, only 3.5mm fell. However, this was sufficiently spread over the period to avoid any completely dry period longer than 10 days.

The dry period came to an abrupt end at the beginning of September. The total for 2 September of 57mm was the second highest 24-hour total recorded in the 30 years of observations. By the end of the first seven days of September, 105mm had fallen, over half the whole season's expected average. This, however, pales before Kinloss's 271mm in the first eleven days, 43% of its annual average. October and November were also appreciably wetter than average, the former bringing two days with over 20mm each, and the latter 64mm over 14th/15th. Autumn is the wettest season, but this year's 327 mm was 70% above average, and just edged out autumn 1984 as the wettest of the 30 years.

In contrast, December was quite dry except for a single active front shortly before Christmas.

Munro Dunn

How polluted is the Forth Estuary?

The Forth Estuary and its catchment represents just 5.7% of the total land area of Scotland. However, this area of the Central Belt is inhabited by 28% of the Scottish population, which is about 1.4 million people. As a consequence, the combination of an expanding population and associated industrial development over the last two centuries, in particular, has had a very significant and damaging effect on the estuary and its wildlife

Of course there has been the physical pressure and habitat loss through coastal land reclamation. For example, 51% of the inter-tidal habitats have been lost through agriculture and industry since 1800. There is also increased disturbance through public access and creeping urbanization. However, it has been the convenience of the tidal water, flushed twice a day, which has in the past attracted its misuse as an open drain for our domestic and industrial wastes and effluent. It is hardly surprising, therefore, that the estuary has a reputation of being highly polluted, even to the extent of being a health risk. The obvious perceived threat being if you fall in and are unfortunate to swallow a mouthful of water, or if you are foolish enough to gather shellfish from certain locations for eating.

In 1993, through the initiative of the Royal Society for the Protection of Birds and Scottish Natural Heritage, a partnership of a wide variety of interests gathered to launch the Forth Estuary Forum. The fundamental objective of the partnership is to promote the wise and sustainable use of the tidal waters of the Forth and its coastline. In the long term the task for the Forum is to prepare a management strategy for the estuary which can be adopted and applied by its wide membership. It has been to this end that a number of 'topic groups' have been established by the Forum to address the principal issues and to develop practical recommendations to resolve them. As a consequence, and not unexpectedly, one of the first topic groups to be set up was on coastal and marine pollution. Work was begun in early 1995 by a small team representing the Forth River Purification Board, local authorities, the Marine Conservation Society and the Keep Scotland Beautiful Group. Its final report was presented to the Forum at the end of the year.

The perception that the estuary is highly polluted is not discouraged by its murky grey colour. That, of course, is a misleading interpretation because even if totally pollution-free the consequence of tidal waters running over mud flats means that it will never be Mediterranean blue in colour. Its murkiness is simply a reflection of the biological richness of the estuary. It will always have that colour - all estuaries in the world do ! Yet behind that murkiness there is a tidal water which is now being progressively cleaned up and one in which wildlife is safer and richer. The estuary is no longer as polluted as we have been brought up to believe.

If one has a criticism, it is that the public and private sectors have failed to keep us informed of the achievements and progress being made in the cleaning up process. This is rather an all too common fault of public authorities but the fact is that, by the year 2005, 97% of the tidal waters will be classified as being of at least of "good quality". Well, that is the remarkable target and if the necessary resources continue to be provided then the Forth River Purification Board will achieve it. So how did we get to this stage without our knowing about it ?

One of the biggest pollution sources this century has been raw sewage, and although at one time what was emptied into the Forth off Edinburgh had an attraction for huge rafts of sea duck, Scaup in particular, over the last 20 years there has been a massive clean-up investment. The Scaup have gone as a consequence but that is a quirky downside which we must accept. So far, 75% of the problematic discharges into the estuary have ceased and work continues on the others. The duck may have lost a dubious source of food, but the estuary is much cleaner as a consequence.

On the industrial front the biggest companies have made great strides in cleaning up their effluent, while new industrial plant is designed from the outset to ensure that it causes no pollution. What remains problematic are smaller operators where remedial costs are disproportionately high and progress is thus slower. However, it is not the most obvious industries that are causing new pollution concerns; it is the agricultural practices in the catchment area and its feeder rivers. For example, over the last 30 years there has been a 250% increase in nitrate levels in the River Tyne in East Lothian. Intensive farming practices are the biggest source and although not yet at a level to cause alarm it is a pollution source to be closely monitored since the enrichment of the waters by nitrate increases the growth of phytoplankton. Although not obvious to the naked eye, (unless they build up to create blooms on reservoirs or ponds), they can seriously upset the ecological balance of tidal waters if nutrient enrichment by nitrates and phosphates is on a large scale.

Not all diffuse pollution inputs come from landward sources. Until 1987, anti-fouling paints caused substantial damage to sensitive marine species in the Forth. Dog-whelks were totally eliminated from some areas. Since the ban, although it is only partial, the Dog-whelk population of the Forth has recovered considerably. However, shellfish in general have been caught up in the pollution hazards and while not directly affected by the bacteria found in sewage, the fact that in some areas they are feeding on contaminated water means that they are unfit for human consumption. The problem might have caught up with the native oyster which at one time lived in the Forth. However, its loss is not definitely associated with any of these pollution sources. It is suggested that it was silt, washed down from cultivated agricultural land, that wiped them out a long time ago.

Oil pollution is always a potential problem in busy shipping waters and when the Hound Point terminal was built, just east of the rail bridge, there were serious concerns about the risks to the internationally important flocks of water fowl that use the estuary as a refuge for feeding and "loafing". Fortunately, strict controls, safety standards and contingency plans have significantly reduced the risk and while incidents still occur, they are relatively minor and quickly dealt with.

Perhaps one of the ultimate tests on pollution levels is the impact on the fish stocks in the Forth. The offshore water quality is good and there is a valuable scampi and lobster fishery as a consequence. The biggest factor influencing the fish stocks of the area is not pollution at all but over-fishing, for the fish that are caught in the Forth do not show abnormally high levels of disease or chemical contaminants. Even in the areas of the two known ammunition dumps, pollution is not a known problem. One could even assume that since trawling is prohibited, there may well be a relatively rich fauna in these areas.

Through legislation, co-operation and advice, the pollution of the Firth of Forth, from domestic and industrial sources, is being tackled at all levels and the state of the Forth is much better than we might imagine. However, the one major problem that remains is rubbish washed up onto the beaches. In 1994/5 it cost the local authorities £330,000 to clean up the mess and Edinburgh District Council alone cleared over 300 tonnes of rubbish from its public beaches.

Some of the rubbish comes from visitors, some of it is washed up after major storms when the sewage systems cannot cope but a lot is dumped at sea by shipping despite all the international conventions and agreements. Still stronger controls are needed and this is being actively pursued by the UK government.

The pollution issues of the estuary are not what we might think. A great deal of progress has been made in resolving the major problems. The major one which is left is under our influence to a degree; and whether it is the amenity value of our coastline or the safe-guarding of our wildlife we must be responsible and ask others to be likewise. That will be one of the tasks of the Forum which it is hoped will stimulate action both at a local level and through the estuary partnership which has been created.

It was coastal rubbish that was actually the stimulus for the Forth Estuary Forum to address the pollution problem and accept the need for a review of the issues. The North Sea is a relatively small 'pond' and one of the problems that Sweden has to cope with on the other side is rubbish which, as a consequence of the tidal currents and flows, is swept away from the UK on to its coastline. The Forth Estuary has its problems but they are not on the scale of those in Sweden. Yet surveys show that the Forth Estuary has some of the most rubbish strewn beaches in the UK. It is unsightly to us and a danger to wildlife.

John Sheldon

WHALE JAWBONE ARCHES IN SCOTLAND

At a meeting of the Mammal Society several years ago, a speaker referred to an article called 'Jaws' by Nicholas Redman, which appeared in the Scots Magazine in 1981.

The article is based on the author's pursuit of Whale Jawbone Arches throughout the United Kingdom, when he located thirty complete arches, nine of them in Scotland. The Scottish sites are quoted, which stimulated a desire to visit them and, hopefully, to find others that had been overlooked. Redman's list of complete arches in Scotland is given as North Berwick Law, The Meadows, Musselburgh, Netherurd, People's Palace in Glasgow, Bragar in the Isle of Lewis, Latheronwheel, Cellardyke, and Kinnaird. Other arches mentioned are at Pitferren (or Pitferrane) near Dunfermline, which has now gone, and an arch at Stromness which can be seen in a 1902 photograph, which has also gone. The Royal Museum of Scotland has the skeleton of a Blue Whale which was washed ashore in 1830 at North Berwick, and in 1976 a single jawbone was found in a garden at Garvald.

Some further information can be added to those listed, but local information was hard to come by and showed a surprising lack of interest. When asked 'What kind of a whale?' the general attitude was 'A whale is a whale and that's that!' When asked where the jaws had come from the locals had not a clue. Nevertheless it is possible to add some information. As already mentioned, the Royal Museum of Scotland skeleton came from a stranded Blue Whale washed up at North Berwick in 1830. The Musselburgh arch is from a whale stranded at Westhaven. The arch at Cellardyke has now gone and came from 'the largest whale ever caught' in 1830. The Meadows double arch was probably brought from Shetland and was used to support their exhibition tent at the Meadows in 1886 and each arch now has a commemorative band celebrating that event. The original arch on top of North Berwick Law was replaced by a new one several years ago. The arch in the People's Palace was moved there from the original site where the Infirmary now stands. The Netherurd arch is known to have been present in Edwardian days, but it was damaged when it had to be moved for road reconstruction, and was repaired and reinforced when placed in its present site over a gateway. Old photographs show the Kinnaird arch over a well-used woodland path. This is now overgrown and the arch less easily found. The arch at Bragar was put up in 1921 and is over 20 ft high and came from a whale washed up near there. It features in an article in the Scots Magazine of February 1971.

A few sites can be added to Redman's list. There is a well preserved arch at Campbeltown but its history is not known. A private house at Cockenzie used to have two arches in its garden. One was used to support a child's swing but this proved to be too much for it, and it has now gone. The second one has been built into a sort of grotto made of black volcanic lava from Iceland. Were the jaws brought back from Iceland along with the lava?

In Orkney, an arch can be seen on the horizon near Binscarth at Finstown, but its origin is not known. On the coast at Birsay a single jawbone has been fixed firmly in the ground and then capped with a vertebra, making quite an impressive sight.

Until the beginning of this century, there was no commercial whaling in Scotland, so whale jaws came either from occasional strandings or from whales being driven ashore by local boats, often in quite large numbers. Angus Martin, in his booklet *Fishing and Whaling*, mentions 360 being driven ashore in the bay of Hillswick in Shetland in 1741, and 287 on Eday in Orkney in 1841. These were probably Pilot Whales.

In the early days of commercial whaling, the main centres were in Shetland and the Hebrides, with Aberdeen, Peterhead, and Dundee later becoming the main ports. On the voyage back to port the jaws would be hung from the mastheads to allow the large amount of oil they contained to drip out. Once factory ships were able to process the entire carcass at sea, the supply of jawbones would virtually cease; which explains why most arches date back 100 years or more.

It is unlikely that all Scottish arches have been found so any information about undiscovered ones, or further detail about those already mentioned would be gratefully received.

Angus Martin	Fishing and Whaling	1995 Nat. Mus. of Scotland
Nicholas Redman		1981 Scots Magazine
		1971 Scots Magazine

Elizabeth Farquharson

BOTANIZING at HOPETOUN

Introduction

A team drawn from membership of the Lothian and East Stirlingshire branch of the Scottish Wildlife Trust prepared the Nature Trail at Hopetoun House for Hopetoun Estate. Mr Joseph (Joe) Carlyle of the Edinburgh Natural History Society was responsible for the plant list and became a Ranger when the house and grounds were opened to the public in 1974. The first team of Rangers did an excellent job finding and recording the flora of Hopetoun, including the fungi, mosses, lichens and liverworts. It is my privilege and pleasure to continue this work.

Like most estates, Hopetoun has a mixture of native and introduced plants. There are some puzzles, a few surprises and one or two rarities. Presence of the Lemon-scented or Mountain Fern (*Oreopteris limbosperma*) has always puzzled me, being an upland species and therefore in the wrong habitat. Then I found a paper giving instructions for the collection of ferns for the "Back Bog Wood" in 1870 so this may be the answer. It grows on Sea Walk near the big *Sequoia* and also in the Walled Garden. Another puzzle has always been the origin of Pirri-pirri Bur (*Acaena novae-zelandiae*) found between posts 6 and 7 Sea Walk Trail. It is well established. A native of Australia, it is a long way from home. Seed may have been carried on clothing when the family returned from there. I do not think it came from a garden centre. Sheep's wool is another possibility, a wool alien. It is curious that it grows nowhere else near Hopetoun. The nearest place I know is Holy Island, Northumberland. Could that be a clue? Only recently, it has appeared at Aberlady Bay.

Rarities include the female plants of Butterbur (*Petasites hybridus*) found in Bog Wood, and Spurge Laurel / Wild Daphne (*Daphne laureola*) growing on Hope's Walk. In 1992, I was delighted to find two flowering spikes of Bird's Nest Orchid (*Neottia nidus-avis*) which was thought to be extinct in West Lothian. At Hopetoun, the previous record for the species was in 1979. I am happy to say it continues to appear. I also found a flowering spike at But Law in 1992, not very far from here.

Sometimes, new species are found. In 1994 for example, Enchanter's Nightshade (*Circaea lutetiana*) flowered for the first time in the parkland, though it flowers freely in Bog Wood and at Nethermill. It grows beside the Carriage Drive above Hope's Walk where a large Beech was felled recently. Resulting light and moisture has given the colony a boost.

In the same way, removing a large broken branch of the Siberian Crab-apple (*Malus baccata*) on Hope's Walk allowed shrubs beneath it to flower. In 1994, with the help of a kind, patient friend at the Royal Botanic Garden Herbarium, we have identified two introduced species viz. *Neillia sinensis*, a member of the currant family, *Grossulariaceae*, from China; and Birch-leaved Viburnum (*Viburnum betulifolium*) from West China. I am sorry I do not have a common name for the former. I still await a name for a *Ribes* species (Currant) found in 1992; it is possibly a hybrid between *Ribes*

latifolium and another plant.

Identification of a shrub growing at Post 14 inside the Mountain Currant (*Ribes alpinum*) hedge (itself uncommon) eluded the first team of Rangers until 1986, when it flowered for the first time. The rest was easy. We had a Bladder-nut (*Staphylea pinnata*), a graceful shrub with white pendulous flowers which develop an inflated calyx, the bladder, containing a hard nut. It would be nice to have another specimen in a better position.

It was a surprise to me to find one very uncommon plant completely hidden in the old woodland ride near Mid-Lodge. Alas it is now completely blocked off by the fallen branches of an old oak tree. It is Mediterranean Butcher's Broom (*Ruscus hypoglossum*) which I have never seen in Britain; *Ruscus aculeatus*, yes, but not this. Who planted it and when? Hopetoun archives for 1748 contain a record of Ruscus or Alexandrian Laurel being planted in the 'Little Garden' south of the house, but it is difficult to believe that we have a descendant of the original plant. Clive Stace in 'New Flora of the British Isles' notes (pp 1135) that it has naturalized in a few shady places in Midlothian. Douglas R McKean in 'A Checklist of the Flowering Plants and Ferns of Midlothian'(1988) records (pp 42) '*Ruscus hypoglossum*. Quarry, Craigmillar 1978, very rare escape'.

Another surprise. Even a large tree can be hidden. While poking about to the south of the Main Vista near the Ha-ha at No 14, Sea Walk Trail, I found Ninebark (*Physocarpus opulifolius*), a native of North America, and Tree Cotoneaster (*Cotoneaster frigidus*) which produces lovely white flowers and later on bunches of red berries. It is completely hidden by Yew and Beech. Another tree grows on the slope below Hope's Walk.

In Spring, I saw a plant that was quite new to me at Main Lodge. It was a pretty little Potentilla-like plant, which, with the assistance of my friend from the Botanic, we identified as an alien, Bastard Agrimony (*Agrimonia agrimonoides*); a poor name surely for such a plant! It was first discovered by the well-known amateur botanist Betty Beattie, about 40 years ago. There is an entry for it at Hopetoun in the West Lothian Checklist (1988) already referred to, so I have been a bit slow finding this one.

We have found more than 200 species of fungi. Edible Field and Horse Mushrooms are plentiful. Edible Morels, Oyster Fungus, St George's Mushroom, Parasol Mushrooms and Wood Blewits have been found. On the West Lawn, numerous colourful Wax Caps grow. I remember The Factor and the young Earl appearing at our 'howf' one morning with an enormous Giant Puffball.

Among the lichens we have Devil's Matchsticks, a *Cladonia* species, on the fallen log at No 3 Sea Walk Trail. Scented Liverwort (*Conocephalum conicum*) grows on the wall at Green Gate (now a smart new wooden gate) near Post 14 and, I suspect, on stones lining the Round Pond.

Botanizing at Hopetoun is never dull. There is always the feeling that I might see something new or discover a plant thought to be lost. For example, Rest-harrow (*Ononis repens*) was recorded by the Rangers in 1978 growing on the Ha-ha on the Plains Field but was thought to have disappeared until I saw it again in August 1994. I could go on. I find it great fun and enormously satisfying. I love botanizing at Hopetoun - or anywhere else for that matter.

Mary Robertson

Tales from the Past :1

Some time ago, a certain member of the Society was particularly anxious to learn the botanical content of the island of Inchgarvie. Another member knew the boatman at South Queensferry, and so on a pleasant summer evening they set off, full of hope, aboard his small boat. It being well-loaded, there was little freeboard and, as they came to the bridge, the current was swift and choppy, so much so that they found themselves being swept back upriver. Hurried consultations followed. Being Nats, they were not to be so easily deterred and sought and found easier waters that enabled them eventually to bring their craft alongside Inchgarvie. Imagine their consternation when they found themselves the objects of interest to a crowded gallery of rats, which stared at them from every rock and broken piece of masonry. They retired with, metaphorically speaking, 'their tails between their legs'. So do the best laid schemes of intrepid Nats gang sometimes agley!

(C.S., slightly adapted by the Editor)

LADYBIRDS

Most people consider Ladybirds to be attractive insects, even though they are beetles. Their popularity may be due to their globular shape and bright colouration with contrasting spots. The bright colours are thought to be a warning to likely predators of their distasteful nature. Most species contain poisonous alkaloids. Ladybirds can also exude a foul-smelling orange fluid from the joints of their legs.

Ladybirds belong to the family Coccinellidae, which is in the order Coleoptera (Beetles). In Britain there are forty species of which twenty-three are easily recognized as Ladybirds. The other seventeen are tiny uni-coloured insects, some of which are hairy.

Of the twenty-three species recognizable as Ladybirds, the following ten have been found in the Lothians:

<i>Adalia 2-punctata</i>	2-spot Ladybird
<i>A. 10-punctata</i>	10-spot "
<i>Coccinella 7-punctata</i>	7-spot "
<i>C. 11-punctata</i>	11-spot "
<i>C. hieroglyphica</i>	Hieroglyphic Ladybird
<i>Myrrha 18-guttata</i>	18-spot Ladybird
<i>Calvia 14-guttata</i>	Cream spot Ladybird
<i>Myzia oblongoguttata</i>	Striped Ladybird
<i>Anatis ocellata</i>	Eyed Ladybird
<i>Aphidecta oblitterata</i>	Larch Ladybird

The 2-, 10-, 7- and 11-spot Ladybirds are red with black spots and are found just about everywhere. The Hieroglyphic Ladybird is found mainly on heathland among heather and is slightly more elongated and the black markings are longer than they are wide. There is also an all black variety (melanic) which is quite common. The 18-spot, Eyed and Striped Ladybirds have a strong preference for Scots Pine. The Striped, as its name implies, has streaks and not spots. The Eyed is so-named because the spots have a halo of lighter colour, reminiscent of an eye. The 14-spot is found on deciduous trees and is dark tan with cream spots. The Larch Ladybird is less like a Ladybird than the others. It is light fawn with at most two black streaks and the pronotum usually has a distinctive black M-shape.

The 2- and 10- spot Ladybirds are extremely variable; there are 14 named varieties of the 2-spot, and many varieties of the 10-spot. The colours vary greatly and so does the shape of the spots. Sometimes the colours are reversed with red spots on a black background.

In Scotland, *Coccinella 5-punctata*, the 5-spot Ladybird is found only on the shingle of the River Spey. *Psyllobora 22-punctata*, the 22-spot is yellow with black spots and is found in the west, feeding on the mildew which grows on leaves. *Halysia 16-punctata*, the Orange Ladybird, has been found at Glen Tile. *Harmonia 4-punctata*, the Cream-streaked Ladybird became established in East Anglia in the 1930's and is slowly spreading northwards. It was recorded in Berwickshire in 1982.

The structure of the Ladybird is generally hemispherical with the upper side protected by the elytra (hardened forewings) and the pronotum (hardened covering of the thorax). The insect can protect itself by withdrawing its head and legs and clamping down tightly in the substrata. The hard shiny body is then difficult to penetrate. The first two tarsal segments of the legs are typically bi-lobed, and the antennae are very short, ending in the last four segments forming a club shape.

The British Ladybirds pass the winter as adults hibernating in the shelter of leaf litter etc. They have a great tendency to congregate in groups of varying numbers and during the winter these congregations can frequently be seen hiding in the vegetation.

Each species has its own variations, but generally, in the spring, eggs are laid in clusters on vegetation. The eggs hatch in a few days and the larvae feed voraciously on aphids or other plant sucking insects. The larval period last 3-6 weeks, then there is an inactive period lasting about 1-2 weeks when the pupa changes internally to form the insect we know as a Ladybird. On emergence, the adult insect is pale in colour and has no spots. It takes several hours for the colour and spots to develop. The lifespan of the insect is usually one year.

Common species and varieties of Ladybirds



Larva of 7-spot



Pupa of 7-spot



7-spot
(Black spots on red)



11 - spot
(Black spots on red)



Cream spot
(Cream spots on dark tan)



Larch
(Black spots on light brown)



10 - spot
(Black on red)



var. of 10 - spot
(Yellow spots on black)



var. of 10 - spot
(Red spots on black)



Eyed
(Cream spots with black centres on red)



22 - spot
(Black spots on yellow)



Streaked



2 - spot
(Black on red)



var. of 2 - spot
(Red on black)



var. of 2 - spot
(Red on black)

The adult Ladybirds also feed on aphids and plant-sucking insects, and are therefore welcomed by gardeners, except perhaps for the 24-spot which is herbivorous, but feeds mainly on vetches and clovers.

Ena Gillespie

TALES OF AN OLD FENCE POST

Have you ever stopped to look at old fence posts?

Looking at old fence posts has become a popular pastime in our study of natural history. Almost to a stage that when we go out for a walk we amble along and examine the posts as we go. And guess what we find? Ladybirds of all kinds.

It all started in the autumn of 1992 near Trochrie, west of Dunkeld. It was a cool but sunny day and the posts were alongside the road by a conifer wood. This day and on similar days to come we came to realize that ladybirds and, in fact, many other invertebrates use such posts in the sunshine, but I am uncertain of the reason for them being so attractive. The most popular ones are those that are old and wooden with crevices for sneaking into, providing shelter with items such as staples and wire.

On this particular day we noticed nine varieties of ladybird, including Striped, Larch, 7-spot, 2-spot and its varieties, Cream Spot, and Eyed.

This autumn we have again seen many ladybirds using this man-made habitat. At Beecraigs Country Park, along the deer walkway, we have seen 7-spot, Eyed, 2-spot, 11-spot, 10-spot and Larch Ladybirds. A later visit on a cold November morning was also productive.

At Tynninghame in early October, a short stretch of posts revealed 7-spot, 2-spot, 10-spot, Cream Spot, Eyed and Striped Ladybirds.

These sightings have set a pattern for us and I think for a long time to come we will look at fence posts, especially with our young children, using them as a small-scale and fruitful habitat. In the future we may even broaden our interest to other creatures encountered - the myriads of small beasties such as spiders, beetles and caterpillars.

Sarah Adamson

CHASING the (STILL) ELUSIVE *Azure Hawker*

In the 1993 Journal we told of finding the rather specialized breeding niche of the rare Azure Hawker Dragonfly in the Loch Maree bog-pool systems. In Britain this beautiful dragonfly is confined to the shallow bog-pools of the North with a few in similar bleak sites in the Clatteringshaws area of South-west Scotland. The male is bright blue in appearance, slightly smaller than our Common Hawker (one of our largest species), while the female can be a duller blue or, disconcertingly, a chocolate brown.

Azure Hawkers emerge from the larval stage around the middle of May and egg-laying may be seen (weather permitting) from the beginning of June until well into August. These eggs, laid into the bases of sedges, sphagnums or even in wet peat, hatch out in May/June the following year with the tiny 2.5mm larvae reaching the emergence size of ca 39mm some three years later. As described in 1993, we had located an excellent small (5m²) shallow pool which contained fifty first year larvae on 25th October. This originally cohesive group had split into two 'cohorts' - fast lane and slow lane developers- where, perhaps to eke out a limited food supply, some had elected to stop growing at ca 10mm while the others had reached a peak of 14mm in length with a few reaching 16 - 18mm. If we could follow this growing community through to emergence, how simple it would be to chart the life-history of this little known dragonfly.

The second of May 1994 saw us back at Loch Maree where we caught and measured 64 larvae in our 5m² pool. Compared with the previous October, there was perfect correlation in the size range with peaks of 11 and 15mm - they had all grown ca 1mm during the previous six months having obviously been in diapause for most of the winter. Three weeks later - disaster! The water level in the

pool was extremely low, just 1-2cm at best. There were 8 full-grown Palmate Newts and only 18 Azure Hawker larvae. On 16th June there were 15 larvae and on 23rd July we were down to only 3 with two newts still present, and looking rather fat and well-satisfied. Real life in bog-pools does have its problems.

After several mediocre summers, the heat-wave of 1995 provided a refreshing chance to appreciate the adult flying dragonflies. Azure Hawker males patrolled their chosen pools, chasing off rivals. We photographed them 'in cop' in sunshine on the bare rock. We marked with stakes where the females were laying eggs so that we can try to locate the very small larvae soon after they emerge from the eggs next spring. Immaculate Northern Emerald dragonflies, dark with eyes glistening green in the sun, hovered over hitherto unsuspected breeding bogs. Territorial White-faced Darters, black with crimson abdomens (the females have yellow markings), perched on the *Rhacomitrium* Moss or darted up to chase off potential rivals.

Dozens of Four-spotted Chasers hovered and swooped over the bog-pools, one male grabbing an egg-laying female, copulating briefly in mid-air, then releasing her to lay eggs for five to ten seconds before another male snatched her up. The word 'frenzied' is the one that comes to mind when watching the sexual activities of the Four-spot Chaser. In another month the Common Hawker, the small Black Darter and the beautiful red Highland Darter take over as the early dragonflies die out.

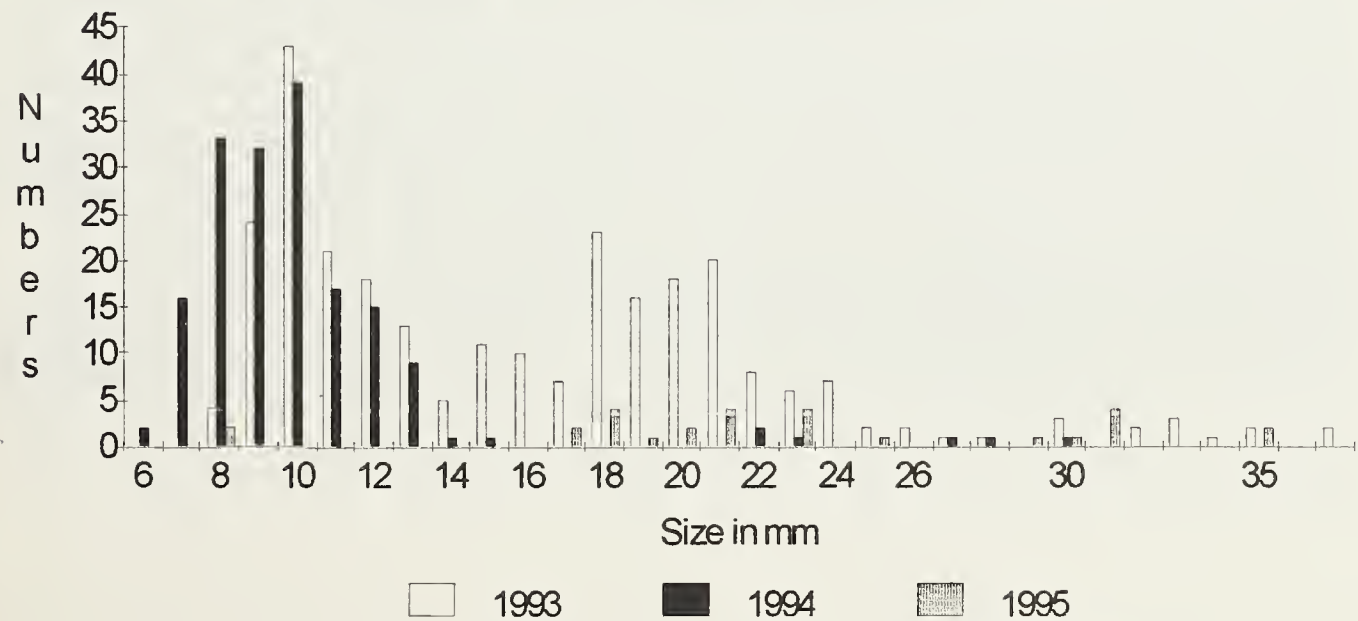
In spite of these distractions, the work of monitoring the larvae went on. Systematically every month we collect them from our nine study pools, measure them and release them. Each pool is marked with a numbered stick and a mark to denote the top winter water level. In June, using a max/min thermometer, one of these bog-pools measured 24C - 31C during a 24 hour period and, not surprisingly, the excessive heat was presenting a problem - the water level was dropping by nearly 10mm per day. At peak winter level the pools are between 15 and 20cm deep. Fortunately North-west Scotland had a spell of rain shortly afterwards and, with pools half full on 21/22 July, we collected and measured 168 Azure Hawker larvae as well as around 430 larvae of another eight dragon/damsel-fly species.

After a four week spell of hot weather which had obviously dried and probably baked most of the pools, then two weeks with enough rain to half fill them, we returned to an altered world. By September, we should be finding the first year larvae hatched during the summer. In 1994, there were nearly 120 while this year we had 2. From our 168 second year larvae measured in July we could find only 22. Of the other assorted species only 100 or so (25%) remained. The diagram illustrates our September counts for three consecutive years. The middle year (1994) gives peaks of 10mm and 18-21mm representing first year (?ca 4 months old) and second year (?ca 16 months old larvae). Obviously both year classes were in good numbers. 1993 shows a similar first year peak of 8 - 10mm but practically no second year larvae. Presumably 1992 was a disastrous summer for these larvae. This year has seen again a population collapse due to drought. It would seem that boom/bust is a way of life for this particular dragonfly species. Perhaps this contributes to its 'elusive' nature?

Bob and Betty Smith

Azure Hawkers-size/number distribution.

Measured in Sept of 1993, 1994 and 1995



A DAY AT LOCH ORDIE

On a warm sunny day in July, Lyn Blades and I left the car at Dowally and walked towards Loch Ordie.

We had not walked far when Ringlet butterflies fluttered around us, then a Small Tortoiseshell landed on the path in front of us. While several Heath Spotted Orchids in a wettish area were being admired, Common Blue butterflies flew from plant to plant. At the stream a Dipper took flight. A Green Tiger Beetle scuttled hastily across our path as we walked on towards some gorse where Stonechat and Meadow Pipits took our attention. For most of the way blue damselflies danced delicately around us. We stopped to admire a red damselfly, *Pyrrhosoma nymphula*, sitting on a twig in the ditch.

The songs of the grasshoppers began to take our attention, and we stopped frequently to listen. It soon became evident that there were two different songs and, later, on listening to a tape of grasshopper songs, we decided we had heard the Common Green and the Meadow Grasshoppers. The Common Green Grasshopper has a lengthy chirruping song with short silent intervals, whereas the Meadow Grasshopper's song consists of bursts of about five seconds with a silent interval of about ten seconds.

On arriving at Loch Ordie, we could see the emergent spikes of Water Lobelia (*Lobelia dortmanna*) and the more inconspicuous spikes of Water-milfoil (*Myriophyllum alternifolium*). We were also intrigued to find *Nitella* growing in the sandy gravel at the lochside. *Nitella* belongs to the family of Algae, *Characeae* (Stoneworts). It consists of an erect filament with whorls of fork-tipped branches at intervals. The red spheres and reddish-brown oval structures at the base of the upper branches are reproductive organs. Rhizoidal branches anchor the plant to the substratum.

Beyond the loch the path crossed over a stream and in the shelter of the bridge, several butterflies were in flight. We spent some time stalking two species of fritillaries until we were satisfied that they were the Small Pearl Bordered Fritillary and the Dark Green Fritillary. The Small Heath and the Meadow Brown were more quickly identified. A short way up stream a Golden-ringed Dragonfly (*Cordulegaster boltonii*) was parading up and down its territory, quickly grabbing any insect coming too near. It would then land on its favourite perch to devour its meal; its mandibles could be seen clearly champing away at its prey. Dragonflies have a habit of repeatedly returning to the same perch. This habit can be of considerable help to the photographer.

Amongst all this delightful wildlife, there were unfortunately, also clegs doing their utmost to obtain a blood meal. However they did not succeed in spoiling a fine day out.

Ena Gillespie

Tales from the Past: 2

'Naturalists stranded! Was this a foolhardy expedition?'

Such might have been the headline had the outcome been more consequential. At Cramond, the sea sweeps round the island, surrounding it with a deep ring of water before the main tidal advance begins. The Nats spent an engrossing morning on the island, and when the canny advice of the leaders was to abandon their pleasures and make their way back to shore, pooh-poohed it as altogether too premature. But they delayed too long and realized too late that they were cut off. Feeling somewhat foolish and not wanting to display their predicament to the world at large, they retreated to the seaward side of the island, no doubt wishing that their lunch packs had been larger. It was a chastened group which eventually, when the tide had turned, squelched their way back across the wet sand to home and safety. This is one official excursion which, until now, has not been reported in the Journal.

(G.B., slightly adapted by the Editor)

ORKNEY HOLIDAY - June 1995

Would you like to join us for a trip to Orkney ? Would I not ! The others had all been before and one of us had worked there for a spell, and so I had the equivalent of a personal conducted tour - but the guides were my friends and consequently it was a relaxed and happy holiday rather than a route march.

I had driven to Scrabster in lovely sunshine. Not having been to Caithness before, I enjoyed the splendid views of sea and cliffs from the coast road and wondered what hills I was seeing inland. I abandoned my car on the pier at Scrabster and, surrounded by luggage, the four of us packed into one vehicle for the two-hour sea passage. The sun disappeared as we boarded the ferry and by the time we were out of the harbour rain clouds had gathered; there were to be no views of the Old Man of Hoy for us that day.

I had visited Shetland some years previously and had expected Orkney to be similar. As it turned out, I could not have been more wrong - and if I had done my homework, I would have had different expectations. Structurally, the two groups of islands are entirely different. Shetland is composed largely of ancient impermeable Lewisian gneiss deeply bitten into by voes rather like the fjords of Norway. The rock does not break down easily into soil and large tracts are covered by heather moorland. In Orkney, by contrast, the gneiss is overlain by Old Red Sandstone, often flaggy in character and, on lower ground, covered by boulder clay which gives good fertile soil. It is easy to see why the Shetlander is a fisherman with a croft, while the Orcadian is a farmer with a boat.

The absence of dense forest cover and the fertility of the soil encouraged settlement by early Man, and the slabby sandstone proved a readily available building material which has stood the test of time. We can still see to-day the stone houses and tombs of these Orcadians of four or five thousand years ago, the brochs dating from the period around the birth of Christ, and evidence of Viking invasion twelve centuries later. Although modern Orkney is predominantly agricultural, fields are interspersed with lochs, moorland and boggy areas and surrounded by a long unimproved coastline where wild plants, birds and animals can still exist along with man.

Our base for the first week was on Mainland, at a former farmhouse at South Heddle, and we finished up with two days on Papa Westray, one of the northerly isles. The plan was to have a drive round on the first day to see the lie of the land and then choose a different part of Mainland, or another island, on each of the other days to look at the birds, plants, and archaeology of that area. The order of our visits was determined to some extent by tides and ferry times and an early visit to the Tourist Office at Kirkwall to find out about these paid dividends.

On Mainland, all roads seem to lead to Dounby and we passed it for the first time on our first morning after we had driven north between the two great areas of open water, the Loch of Stenness and Loch Harray, just yards apart at the nearest point. There we had our first sight of the two great stone circles, the Stones of Stenness and the Ring of Brodgar on the shores of the lochs. The stones are massive and both henges date from around 3,000 BC. They would appear to mark the site of long-forgotten religious or social ceremonies although it has been suggested recently that they form a lunar observatory. Whatever their purpose, they dominate the landscape, monuments to a time long gone.

Where did the builders of these stone circles live? On the Bay of Skaill, on West Mainland, there is a wonderful example of a Stone Age village. Skara Brae consists of a group of huts each with its own stone beds, and cupboards and hearth. The village was buried by advancing sand dunes around 4000 years ago and uncovered in the middle of last century when the sand shifted during storms.

During the first century BC, a different type of building was erected. This was the broch, a circular dry-stone tower whose purpose appears to have been defensive, but which was also a permanently occupied family dwelling. We visited splendid brochs at Gurness and at Mid-Howe on the island of Rousay. The visit to Gurness was specially memorable because two Red-throated Divers in the bay were calling as we walked round the top of the walls of the broch.

There was plenty of evidence of communal burial tombs, from the Dwarfie Stane hewn

out of solid rock, on the island of Hoy, to the enormous rectangular chambered cairn at Mid-Howe, now covered with what looks like an aeroplane hangar to preserve it. Perhaps the most interesting was Maes Howe, an enormous cairn constructed of flagstones and covered with turf. The entrance is through a long low passage beneath enormous slabs of stone opening out into a roomy chamber with a domed roof and a burial cell in the middle of each wall. In the twelfth century the tomb had been raided by Vikings who left graffiti in the form of runic writing on the walls. It was from these writings that archaeologists learned how to translate runes. The runes tell us that 'Ingeborg is the fairest' and 'A great treasure is hidden in the north-west'.

Even if this treasure is never discovered, there is plenty of treasure in the birds and plants of the islands. The great Atlantic seacliffs, the sheltered bays, the wide stretches of inland water, the rough moorland, provide habitat for a great variety of birds. It was wonderful to sit on top of the cliffs at Marwick Head and Yesnaby and look down on the colonies of cliff nesting birds - Kittiwakes, Guillemots, Razorbills, Puffins, Tysties, Shags and Fulmars. Bonxies and Arctic Skuas flew past from time to time causing consternation in the ranks. We were sitting among Thrift, Thyme, Sea Campion, and Spring Squill, all in profusion. *Primula scotica* was hard to find but it was there and as usual it was a surprise to see just how tiny it was. While we were looking for divers in one of the lochs, we had a wonderful view of a Short-eared Owl quartering the ground for prey, just yards from the car. We searched the moorland in vain for Hen Harriers but on our last day we chanced to drive along a road where some bird-watchers had spotted a Pallid Harrier, a rarity, and we had a distant view of this through one of their telescopes.

The end of our holiday was marked by an idyllic day on Papa Westray, The sun shone, the sea was calm and seals basked on an offshore reef. We found *Primula scotica* in abundance, though not in full bloom, on the cliff-top. Thousands of Arctic Tern nested on the North Hill, harried by Arctic Skuas and an occasional Bonxie. The evening was windless as mist crept in once more from the sea.

As we sailed past the Old Man of Hoy on our way back to Scrabster, some of the many and varied images of Orkney passed through my mind - the luminous quality of the light, vast stretches of open water, ancient standing stones, and an Arctic Tern attacking a cow ! Hopefully, this first visit to Orkney will not be my last.

Mary Clarkson

BOTANIZING ON BEN VRACKIE

After the Nats outing on mountain flowers in Perthshire in early July, a number of us took the opportunity to extend our visit and spent the next day looking at the flora of Ben Vrackie, above Pitlochry.

During the course of the day every member of the party managed to climb to the summit of the Ben, the majority keeping to the recognized path, which is quite steep near the top, while others found more adventurous routes both up and down. However for most of the day we pursued a more leisurely botanizing wander. Initially this took us through the woods onto the moorland of the lower slopes, but eventually we reached the area of the cliffs. And it was only too obvious that in scrambling around here we were following in the footsteps of many other two-legged visitors in search of mountain plants. Sadly, this area has become very badly eroded.

Our list for Ben Vrackie records some 80 plants, ranging from the very common to the very rare. Among those recorded as 'occasional' in Perthshire we saw

Alpine Mouse-ear	<i>Cerastium alpinum</i>
Alpine Meadow-rue	<i>Thalictrum alpinum</i>
Hairy Rock-cress	<i>Arabis hirsuta</i>
Hoary Whitlow-grass	<i>Draba incana</i>
Starry Saxifrage	<i>Saxifraga stellaris</i>
Common Wintergreen	<i>Pyrola minor</i>
Marsh Lousewort	<i>Pedicularis palustris</i>
Dwarf Cudweed	<i>Gnaphalium supinum</i>

Scottish Asphodel	<i>Tofieldia pusilla</i>
Heath Spotted Orchid	<i>Dactylorhiza maculata</i>
Fragrant Orchid	<i>Gymnadenia conopsea</i>
Moonwort	<i>Botrychium lunaria</i>
Holly Fern	<i>Polystichum lonchitis</i>
Stagshorn Clubmoss	<i>Lycopodium clavatum</i>

And we found two of the real specials, both happily in flower. They are very rare milk-vetches viz. Alpine Milk-vetch (*Astragalus alpinus*) and Purple Mountain or Silky Milk-vetch (*Oxytropis halleri*)

Lyn Blades

NEWCASTLETON SSSI

Newcastleton lies beside the River Liddel and very near to the border with England; the first stone of the village was laid in March 4, 1793. The people of this part of Liddelsdale had petitioned the then Duke of Buccleuch, who owned these lands, expressing their wish for something more extensive than a market place and this planned village was created. It consists of one long broad street, a large square and two smaller ones, and side streets running off at right angles. In this village lives Dave Ellis, a retired forester, but, more importantly, a naturalist with an extensive knowledge of the surrounding countryside.

In the hills near Newcastleton, there lies a very special area of beautiful wild flowers. One day in early July 1995, I and seven others members of the ENHS met Dave Ellis in his home where he told us something of the habitats he would show us; of the limestone flushes in the hills, of the pipes which carry away some of the acid water draining from the moorlands, and of the controlled grazing of cattle and sheep which keeps down the coarser vegetation.

At the beginning, the walk seemed similar to so many others: the stile to be climbed, the woodland, site of a variety of ferns, to be traversed, the midges to be endured - but then came the realization that there really were a lot of orchids in the grass and that they were not all the Common Spotted (*Dactylorhiza fuchsii*) or the Northern Marsh Orchid (*D. purpurella*) although the sight of so many of these and their hybrids was, to say the least, most pleasing. The Fragrant Orchid (*Gymnadenia conopsea*) with its lovely long slender spurs began to appear and the eight members of the 'Nats' kept lying prone to inhale the sweet scent variously described as 'carnation' or 'cloves' according to the nose.

The Common Twayblade (*Listera ovata*) stood, not in twos or threes, but in serried ranks - if not small thickets. Further up the hill grew the Small White Orchid (*Pseudorchis albida*) difficult to find at first until one got one's eye in and then, wamed by the shouts of other members of the group, 'You are just about to stand on one', finding them easily. The magic continued with the appearance of the first of the many tall broad spikes of Greater Butterfly Orchid (*Platanthera chlorantha*) and of the tiny spikes of the Frog Orchid (*Coeloglossum viride*). Did one dare to be disappointed that the *borealis* variety of the Fragrant Orchid would not flower until about two weeks later?

There were many other lovely flowers in bloom apart from the orchids; and Chimney Sweeper moths and Map-winged Swifts fluttered around and posed for photographs.

Thanks to Dave we also found Moonwort (*Botrychium lunaria*) and Adders Tongue Fern (*Ophioglossum vulgatum*) growing together. He led us straight to the one spot on the moorland where a pale variety of Globeflower (*Trollius europaeus*) grew and then, unerringly, to the patch of Northern Bilberry (*Vaccinium uliginosum*) with blue-green leaves and conspicuous netted veins. Returning

through the woods we saw Wood Horsetail (*Equisetum sylvaticum*) and Giant Horsetail (*E. telmateia*).

For our final adventure, Dave led us down the steep side of a wooded valley to the burn whose lime-rich water passed over the mosses creating tufas, rocks of petrified moss. Unfortunately this was the lair of myriads of midges. How do midges survive when there are no human beings around to be eaten?

All the members of the group took pleasure in thanking Dave Ellis for taking time to show them around such a rich site.

Margaret White

THE LIBRARY

The library was started in 1975 with a collection of about 50 books. These were carried to meetings in a couple of suitcases - with the addition of some cardboard boxes as other books were bought or donated.

On the death of a past president, Mr Gunn, another 50 or so books were added. Fortunately, the Society now had the use of a cupboard in the Guide Hall where they could be stored, and a selection was put out at each indoor meeting. We then acquired the use of a room at Donaldson's School to store equipment and, when the cupboard in the Hall was no longer available, we were able to move the books there. This was very fortunate, because, on the death of Janet Raeburn, the Society received 250 books from her collection. This necessitated the purchase of several bookcases and the books were now all listed on a card index. Further substantial additions were made through the bequests from Peggy Hobson, whose collection included a large number of books from her stay in South Africa, and from Tom Prentice, one of whose main interests was geology.

With donations from many members, too numerous to mention individually, and also with the purchase of new books, the Library now had over 1000 books. Inevitably there were duplications and a number of out-dated books, so a team of members sifted out unwanted material and we held a 'clearance sale'. A few volunteers helped to re-catalogue the books and, thanks to John Winham, a computer list was printed.

When we had to leave Donaldson's School, we were given space at the Water of Leith Centre at Slateford. A team of willing helpers carried books and equipment, cupboards and bookcases down the many stairs of the School to a hired van to be transported to their new home. The collection now numbers about 800 volumes and includes various categories of Natural History such as Botany, Invertebrates, Geology, etc. There are local and regional guides, floras for various areas of the country and a few foreign books, which might be of use to those going on holiday. Among the journals are copies of the Glasgow Naturalist and editions of The Mycologist as well as bound back numbers of our own Newsletters.

A selection of books is taken to each meeting, and the catalogue is also available for members to refer to. Regrettably, the number of borrowers is low. It would indeed be encouraging to see members making more use of the excellent collection of Natural History material the Society now has available. Anyone wishing to have further information about the Library, please contact me.

Frances Dunn

FORTH ISLAND BIRD COUNTS 1995

Because of the late nesting of Shags and Kittiwakes in 1994, we decided to make our annual visits/counts a week later this year. This proved to be a mistake as it turned out to be an early year for nesting. In addition, the Craigleith trip was put back another week due to bad weather and even our re-arranged jaunt on 11 June was the only boat trip of the day and severely restricted in time. There was a force 4-5 north wind, it had been wet and the north facing slope was a greasy hazard. It was a relief to get off the island.

Generally it was a good breeding season with the Auk numbers holding up well and large numbers of non-breeding Puffins putting in an early appearance. Cormorants are nearly back to their (presumed) peak numbers and a 50% increase in breeding Shags combined with good numbers of near-fledged young suggest that they have got over their recent problems. Kittiwake numbers have gone up by nearly a quarter on last year's totals and a pair of Great Black-backed Gulls with three eggs on Inchkeith is the first proven breeding record for the Inner Forth.

Only the Terns have slumped. Gone are the days of 600-1000+ pairs of Sandwich Terns; there were only five pairs in the Forth this year. Inchmickery, which once was the home to innumerable Common Terns had only 11 nests. On a less gloomy note, it is nice to record that a few pairs of the rare Roseate Tern still hang on. Seventeen pairs bred, and there is report of a much better year in the British Isles breeding population - perhaps due to international work done by the RSPB and certainly helped by valiant work on the few breeding colonies of Britain and Ireland.

Summary of seabird counts for the Forth Islands, 1995

	Bass Rock	Craig	Lamb	Fidra	Eye-broughty	Inchkeith	Carr Craig	Inchcolm	Haystack	Inchmickery	Inchgarvie
Fulmar (aon)	x	203	8	303	0	514	0	218	0	34	184
Cormorant (nests)	0	82	179	0	0	112	1	2	97	0	0
Shag (nests)	x	171	81	84	0	18	4	4	1	20	0
Gannet (nests)	x	0	0	0	0	0	0	0	0	0	0
Eider (nests)	x	x	4	216	0	x	3	x	2	250	63
Great B-b Gull (nests)	x	3+	2	2-3	0	1	0	0	0	0	0
Lesser B-b Gull (nests)	x	x	230+	1848	6	x	ca 3	x	0	141	6+
Herring Gull (nests)	x	x				x	49	x	12	141	280
Kittiwake (nests)	x	951	210	435	0	551	0	190	0	0	0
Common Tern (nests)	0	0	0	0		0	0	0	0	11	0
Arctic Tern (nests)	0	0	0	0	0	0	0	0	0	0	0
Roseate Tern (nests)											
Sandwich Tern (nests)	0	0	0	0	0	0	0	0	0	1	0
Razorbill (sites)	x	108	47	ca 80	0	56	0	2	0	0	0
Guillemot (birds on cliffs)	x	2122	2630	289	0	48	0	0	0	0	0
Puffins (birds)	x	4000+	150+	300+	0	ca 1200	0	30+	0	13 (aon)	0

Notes: x = no count; 0 = none breeding. aon = as on nest. Eider and gull counts are incomplete, and all totals are missing for the Bass Rock.

RWJ Smith

NOTES ON NATURAL HISTORY 1995

Observations

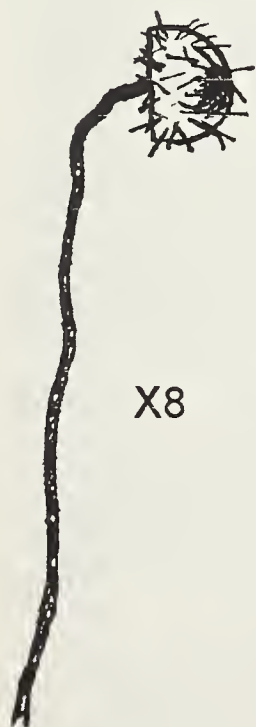
MA Margaret Abel	SDA Sarah/David Adamson	LB Lyn Blades
MC Mary Clarkson	BC Bill Clunie	DC Doris Crichton
EF Elizabeth Farquharson	EG Ena Gillespie	NL Nira Laing
ERL Elizabeth Landells	GM George McDougall	EO'D Eleanor O'Donnell
EP Eileen/Eric Perry	MR Mary Robertson	ESR Scott Robertson
RS Rosemary Smith	JW Janet Watson	

3/1/95	A Rough-legged Buzzard at Mayshiel in the Lammermuirs.	(BC)
	Flock of Tits, mostly Blue but some Long-tailed feeding along Tyne-side Alders at Haddington.	(ERL)
4/1/95	A Bittern at Duddingston Loch.	(BC)
7/1/95	Waxwing along the old railway line, W.Granton Rd.	(BC)
16/1/95	Five Snow Buntings at Aberlady.	(BC)
21/1/95	Four Little Auks at Yellowcraigs	(BC)
25/1/95	Great Spotted Woodpecker at Tynninghame; also several Goldcrests.	(ERL)
28/1/95	Single Dark-breasted Brent Goose on Longniddry foreshore.	(ERL)
29/1/95	Two male and one female Surf Scoters at Ruddon Point, Fife.	(BC)
30-31/1/95	Awakened by a "dreadful noise". My neighbour in Gardiner Rd, Blackhall observed foxes mating in his back garden.	(MR)
31/1/95	At 8 am, I almost fell over a Fox at my back door. Sleeping it off on the mat?	
	At 9 am, a Sparrowhawk perched briefly in the rowan tree near the bird table, no doubt intending to pick off a small bird feeding there.	(MR)
1/2-26/3/95	A male Blackcap perched on a twig of Mock-orange above a Privet hedge less than twenty feet from a kitchen door in the Blackford Hill area and came to a bird-table even nearer the door. It was very aggressive and saw off Tits and even Robins. A twig on the same bush had been used as a perch by Blackcaps in 1993 and 1994.	(MC)
2/2/95	A Ruff was seen at Musselburgh Lagoons, near the boating pond.	(MC,MR)
8/2/95	A queen wasp in the kitchen window.	(MR)
9/2/95	A Greenshank observed on Cramond foreshore.	(MR/ESR)
18/2/95	A drake King Eider at Tayport.	(BC)
23/2/95	Two Tawny Owls on Spylaw Bank Rd.	(BC)
24/2/95	Water Pipit at Tynninghame.	(BC)
25/2/95	Black Redstart at Cockenzie Power Station..	(BC)
26/2/95	Dozens of White Hares in the Lammermuirs above the Manor Valley.	(EG,LB,JW,MC)
3/3/95	Female Blackcap feeding at the bird table. She was an irregular visitor until the end of March, generally appearing after frost or snowfall.	(MR)
	Mink seen swimming across the Almond above the weir at Cramond.	(ESR)
4/3/95	Forster's Tern at Musselburgh.	(BC)
8/3/95	Two male Blackcaps present until 9/4/95 in the garden at Penicuik. They fed abundantly on old apple cores.	(DC)
11/3/95	Yellowhammers, 50 at least, on pile of spilt grain, Ormiston railway walk.	(ERL)

12/3/95	Golden Plover on the Glenrath Heights above the Manor Valley.	(MA,MC)
14/3/95	Chaffinch, Greenfinch, Blue Tit, Great Tit, Carrion Crow and Grey Squirrel in a party at a picnic table, Vogrie.	(ERL)
21/3/95	Raven at Glentress.	(BC)
25/3/95	At Muiravonside, on an ENHS outing, Blue-eyed Mary (<i>Omphalodes verna</i>) in flower.	(MR)
28/3/95	Moschatel (<i>Adoxa moschatellina</i>) in bloom in snow near Nairn.	(MC,NL)
3/4/95	Repeated loud yaffles from Green Woodpecker in Ravelston Wood.	(MR)
6/4/95	Early Wheatear at Meldons. Meadow Pipit movement observed - 23 at Meldons, 25-30 at Gladhouse.	(ERL)
7/4/95	Both Chiff-chaff and Willow Warbler heard at the Garden Centre, Hopetoun House.	(MR)
13/4/95	Water Rail at Linlithgow.	(BC)
	Early Willow Warbler heard at Roslin.	(ERL)
24/4/95	Swallows flying around Hopetoun House Stables.	(MR,Ranger)
25/4/95	Tortoiseshell butterfly at Hopetoun House.	(MR)
28/4/95	Large flock of Fieldfares, perhaps 200, in an area of Birch in Strathardle near Kirkmichael, Perthshire. This was after a period of several weeks of easterly winds and so perhaps they were waiting for a favourable wind for a return to Scandinavia.	(MC,RS)
29/4/95	Willow Warbler, Chiff-chaff, Blackcap, Garden Warbler and Common Sandpiper all heard and seen on the ENHS outing to Harestanes, Jedburgh	(MR)
4/5/95	Wood Warbler in Colinton Dell.	(BC)
5/5/95	My first Garden Warbler. Sedge Warbler, Whitethroat heard and seen at Ormiston.	(ERL)
6/5/95	First Swift at Linlithgow Loch. Gadwall on the Loch.	(MR)
12/5/95	A tiny Grey Squirrel appeared in the garden at Penicuik and fed on pineapple chunks.	(DC)
13/5/95	Drake Garganey at Aberlady.	(BC)
	Singing Whitethroat in scrub hawthorn, at Main Lodge, east of Hopetoun House.	(MR)
17/5/95	An Osprey swooped down to Alemoor Loch, near Hawick, caught a fish and flew off mobbed by crows.	(EO'D,MA,MC)
Until 17/5/95	Several Siskins, of both sexes, feeding on peanuts in the garden at Penicuik.	(DC)
26/5/95	Salad Rocket (<i>Eruca sativa</i>) found on the Teviot river bank near the site of Roxburgh Castle. It has not previously been recorded in the Roxburgh vice-county.	(GM)
	Stonechat pair with two juveniles seen at Meldons.	(ERL)
6/6/95	Orange Tip Butterfly at NT986874, on the Kinneil Kerse ENHS outing.	(MR)
11-16/6/95	Three Golden Eagles, three Sea Eagles and two Hen Harriers, Mull.	(BC)
12/6/95	Redwings near Kinlochewe.	(MC,RS)
1/7/95	Goatsbeard (<i>Tragopogon pratensis</i>), an uncommon weed to see in a suburban garden, on a gravel path in Gardiner Rd, Blackhall.	(MR)

- 3/7/95 Hedgerow Cranesbill (*Geranium pyrenaicum*), at Roseburn Cliff, Edinburgh; Scotch Laburnum (*Laburnum alpinum*) on the old railway line near Wester Coates; two Hungarian Oak (*Quercus frainetto*) and Moroccan Broom (*Cytisus battandieri*) near the Standard Life Building, Goldenacre, Edinburgh. (MR)
- 7/7/95 Roseate Tern at Yellowcraigs. (BC)
- 28/7/95 Observed a line-up of Swallows on fence wire, near Rosebery Reservoir, with one Sand Martin on the left and House Martins on a hedge on the right. A wet patch on the road seemed to be the attraction. (ERL)
- 26/7/95 The fungal enthusiasts in the Society had a long wait this year for their season to start after a very wet March followed by the hottest and driest summer that we have known. However, there was one major surprise on the evening of Wednesday, 26 July when walking in the woods surrounding Craighouse. Not far from the main building, a fungus not normally seen in Scotland was growing on a half dead sycamore tree. It was *Volvariella bombycina*, described by Bon as 'fairly common in Southern England'. Later in the season it was seen again by Dr Watling at Mellerstain.
- This is a beautiful fungus with a large (10-20cm across) white shaggy cap and a very tough volva at the base of the stem where it emerges from the wood. At Craighouse it was growing above head height in a line up a tree, coming through at a junction where the tree had lost its bark.
- Hopefully, *V. bombycina* will re-appear next time we have another summer like this one, but as the tree on which it is growing is already dying, it may be considered unsafe and be removed. At Craighouse, it is growing on sycamore, but elm is the usual host tree. (EF)
- 3/8/95 Twelve or more Mistle Thrushes at Mayshiel (Whiteadder). In the Monynut Valley, a variety of butterflies - Green-veined Whites, Meadow Browns, Dark Green Fritillaries, and one Painted Lady on flowers by the roadside. (ERL)
- 4/8/95 Painted Lady butterfly at Hopetoun House. (MR)
- 8/95 During August, I noticed 'shredded leaves' on oak and lime at Hopetoun. This unusual feature was caused by flea beetles which jump and later fly away. They were brought on by the warm weather. (MR)
- 8/95 A female Sparrowhawk caught a male Blackbird, and plucked it on the lawn close to a large hedge (Penicuik). (DC)
- 11/8/95 Nine Long-tailed Skuas at Hound Point. (BC)
- 26/8/95 A Spotted Flycatcher family, Drumelzier. (ERL)
- /9/95 Many Red Admiral butterflies were seen throughout the month and well into October. They were all in pristine condition, probably a second hatching due to the warm weather. (MR)
- 3/9/95 A Spotted Crake at Baron's Haugh, RSPB Reserve. (BC)
- 8/9/95 Two Wrynecks and Icterine Warbler at St Abbs Head. (BC)
- 8/9/95 Several Red Admiral butterflies frequented the Dahlia flowers in the garden (Penicuik). (DC)
- 10/9/95 Beecraigs Country Park NT008746. Ladybirds of six species were found, mainly on the sunward sides of fence posts surrounding the deer farm. Most notable were three 11-spot Ladybirds, normally found at the coast; and Eyed Ladybird; and two forms of the 2-spot Ladybird. On sunny days in autumn, wooden fence posts seem to attract ladybirds of various species. A few years ago, a great variety were found at Trochy, near Dunkeld, on old fence posts near a wood in early autumn.
- Also seen outside Beecraigs Visitor Centre on Buddleia were four kinds of butterfly, including a Peacock. (SDA,GM)

12/9/95	Tortoiseshell, Red Admiral and White butterflies on a Buddleia at Cardrona garden.	(ERL)
17/9/95	First geese of the autumn seen at Hopetoun.	(MR)
18/9/95	Camberwell Beauty butterfly at Wells, Norfolk.	(BC)
22/9/95	Porcelain Fungus (<i>Oudemansiella mucida</i>) in great profusion on trees and stumps in a Beech avenue on Dere Street east of Jedburgh.	(EG, LB, MC)
23/9/95	Bee-eater at Yellowcraigs.	(BC)
26/9/95	Geese and Swallows seen at the same time at Hopetoun, an unusual event.	(MR)
27/9/95	A flock of a dozen or so White Wagtails (<i>Montacilla alba alba</i>) in and around the garden in Peebles.	(EP)
5/10/95	Water Fern (<i>Azolla filiculoides</i>) covering the old curling pond at Cammo.	(MR)
12/10/95	Sixty Barnacle Geese at Moorfoot farm.	(MC)
17/10/95	A Red Squirrel at Smeaton, East Linton.	(ERL)
28/10/95	Bird's Nest Fungus (<i>Crucibulum laeve</i>) found on rotting wood at the top of Ravelston Wood, Blackhall. Checked by Elizabeth Farquharson.	(MR)
3/11/95	Three Great Northern Divers at Hound Point.	(BC)
5/11/95	Drake American Wigeon at Aberlady. Also a flock of 43 Barnacle Geese.	(BC) (MR)
17/11/95	At the corner of Columba Avenue, and Columba Road, Blackhall, mid-afternoon, a newly killed pigeon in a garden; about 10 minutes later, a sparrowhawk standing on and feeding from the carcass.	(MR)
19/11/95	A Grey Wagtail and a Moorhen at Quarry Pond, Blackhall	(MR)
23/11/95	A small flock of Fieldfares on hawthorn at 'The Banks', off the A904 leading to Hopetoun House.	(MR)



X8



On the outing to Pressmenan Wood (October 14), Margaret Nisbet found and then sketched this small white fungus growing on Holly. Elizabeth Farquharson could immediately identify it because of its host as the rare *Marasmius hudsonii*.

WINTER INDOOR MEETINGS - 1995

January: Sidney Clarke of the Royal Botanic Gardens gave a well-illustrated talk on the Gardens' expedition to Taiwan, whose main purpose was to collect seeds of rare and endangered conifers. Unfortunately it was a poor seeding year for conifers with a success rate of only about 75%. However, many associated plants were also collected with the aim of setting up breeding populations of the trees with their normal associated species. A trained photographer as well as a horticulturalist, Mr Clarke's slides of the mountains and forests of west Taiwan were superb as were the close-ups of the more attractive and interesting flowers.

February: The Role of Larger Fungi in Woodland Ecosystems was the title of Philip Mason's (ITE) illustrated talk. The fungi are of 3 types viz.- *parasites*, which attack old or damaged trees; *saprophytes*, which break down decaying matter; and *mycorrhizal fungi*, which form a symbiotic relationship with trees. The latter obtain carbohydrates from the trees, but at the same time form a natural extension of the root system allowing increased uptake of other nutrients. They also appear to help trees under stress from drought, waterlogging or salinity of the soil. Pioneer trees in a stand either do not need mycorrhizal fungi, or can make do with generalist species. Later, specialist fungi are required - possibly connected with the requirement to break down the particular type of leaf litter.

March: Edinburgh University scientist Dr Liz Rogers' topic was Gorillas in Gabon. There are three sub-species viz: E and W Lowland and Mountain Gorillas. Mostly the latter, the smallest group, has been studied, as their terrain is open and the animals are easier to watch. On the other hand the Lowland Gorillas live in forest with a dense understorey. Study of these sub-species has been going on since 1979, however, and it is known that their diet is very different. For preference they eat a wide range of fruits, reverting to leaves, stems and bark in the dry seasons. The forests where they live is subject to logging at a sustainable level, and this has much less effect on Gorillas than on Chimpanzees, which are more territorial.

April: Members' night produced 5 short contributions:

Heather McHaffie - described Kindrogan, the Centre, the countryside around it, recent upgrading of the 'Steading' and reviewed the many courses available.

Sheila Littelljohn - spoke about a recent holiday in Trinidad, which she left about 20 years ago. She visited a former plantation, now a Field Centre and saw there most beautiful birds.

Ena Gillespie - illustrated the life cycle of native butterflies and moths, from eggs to emergence, with superb slides. But one Emperor Moth cocoon produced only parasitic wasps!

Jackie Muscott - showed slides of some common galls, caused by mites, midges, wasps saw-flies, fungi and, in the case of 'viviparous' clover, by a microplasma.

Elizabeth Farquharson - described a Mycological Society visit to Spruce forest in Norway. The only Scot, she was more familiar with the species than the others in the group, but still delighted by the numbers and varieties to be seen.

October: - Graham White talked about the life and work of John Muir, who left Dunbar at the age of 11 when his father emigrated to Wisconsin. But for an accident which nearly deprived him of his sight, he might have become an industrialist. Instead he went west to Yosemite, an unexplored wilderness, and became the first ecologist and conservationist. He influenced the 'powers that be' to create the first National Parks. A John Muir Centre is presently being established in Dunbar.

November: 'Living with Parks in Europe', the talk by Michael Starrett of the Pentland Hills Regional Park took members on a tour of parks in Spain, France, Slovenia, Ireland and Scotland, as he reviewed the policies applied in each country. His main theme - that parks had to adapt to meet the needs of people living within them as well as being areas where nature is conserved - was amply illustrated with slides.

December: - Paul Johnson of the National Trust for Scotland traced the history of the Trust's countryside properties, along with its 'rules' for their continuation as wild land. With the increasing pressure of visitors, the emphasis has changed from preservation to conservation and now to restoration. Finally Mr Johnson presented a slide tour of the properties, from Fair Isle and St Kilda to St Abbs, from Torridon and Kintail to Glencoe.

EXCURSIONS 1994-5

B Botany
F Fungi
G General
Ge Geology

Fe Ferns
T Trees
O Ornithology
Gr Grasses

*Day Excursions***1994**

5 Nov	Bavelaw/Threipmuir	O	Mr J Stewart
3 Dec	Musselburgh /Kilspindie	O	Mr C Pountain
26 Dec	Sausage Sizzle/Walk	G	

1995

21 Jan	Lochore Meadows Country Park	G	Ranger
18 Feb	Hopetoun House Grounds	T	Mrs M Robertson
25 March	Muiravonside Country Park	G	Mr C Fox, Ranger
15 April	Water of Leith	G	Mrs V Wallace
29 April	Harestanes, nr Jedburgh	G	Mr G Swift
6 May	Linlithgow Loch/Bo'ness	O	Mr J Stewart
13 May	Portencross, Ayrshire	O,B	Mr I McCallum
20 May	Carlops-Spittal Circuit	G	Ranger
27 May	East Lomond Circuit	G	Mr M Dunn
3 June	Clink Forest/Abemethy Glen	G	Mrs C Campbell
10 June	E Lammermuir Deans	Ge	Miss H McHaffie
17 June	Balchroich Reserve, Keltneyburn	B	SWT Ranger
24 June	Carberry Tower/Lennoxlove	T	Mrs M Robertson
1 July	Craik Forest	B,G	Mr I Robson, Ranger
8 July	Loch Moraig	B	Miss J Muscott
15 July	Mugdock Country Park	G	Ranger
22 July	Duns Castle Grounds	G	Mr M Henderson, SWT
29 July	Belhaven-E Linton	G	Mrs C Campbell
5 Aug	Bams Ness	Ge	Mr W Baird
12 Aug	Aberlady	O, G	Mr W Clunie
19 Aug	Rumbling Bridge Circuit	G	Mr & Mrs M Dunn
26 Aug	Deuchrie Circuit, Stenton	G	Mrs M White
30 Aug	M V Gardyloo, all-day sail	O	Mr J Stewart
2 Sept	Kirknewton-College Valley	G	Mr D Gill
9 Sept	Dunkeld Circuit	G	Mr D Adamson
16 Sept	Laggan Hill, Crieff	G,F	Mrs C Campbell
23 Sept	Harlaw/Threipmuir Area	F	Mr M Richardson
30 Sept	Doune Ponds/ Lanrick Castle	F,T	Mr I Munro/ Mrs M Robertson
8 Oct	Yellowcraigs	F	Mr A Newton
10 Oct	Pressmennan Wood	F	Mrs E Farquharson

Evening Excursions

31 May	River Almond Circuit	G	Mr M Dunn
7 June	Cammo Park	G	Ranger
14 June	Dreghom Loan- Bonaly	Gr	Mr G Swift
21 June	Holyrood Park	Ge,G	Miss B Mitchelhill
28 June	Roseburn- Crewe Toll	G	Miss B Mitchelhill
5 July	Braid Golf Course	G	Mrs E Farquharson
12 July	Bavelaw Mill - Buteland	G	Mrs C Campbell
19 July	Boghall Glen - Hillend	G	Ranger
26 July	Craighouse	B,G	Mr R Baillie

EXCURSION REPORTS 1994 - 5

Lochore Meadows Country Park, 21 January

Although it was dull and cold there was a good turnout for the first outdoor meeting of the year.

After a short preliminary tape/slide introduction to Lochore Meadows, a Ranger took us around the loch. As well as seeing Coot, Pochard, Wigeon, Goldeneye and Teal on the loch, we were fortunate in seeing a group of Whooper Swans with one attendant Black Swan (an escapee presumably) as well as a number of Goosander.

The Ranger was very informative about what life was like in the days when the surrounding pits were in operation, and how after they were shut down the derelict area had been reclaimed and had gradually become a very attractive country park.

Betty Mitchelhill

Hopetoun House Grounds, 18 February

It was a dry sunny morning but with a sharp wind blowing when twenty-four members assembled in the Hopetoun House forecourt.

The main interest of our walk was to examine ornamental trees introduced from the time the parkland was landscaped in the 18th century. Some of these earliest trees survive today as fine specimen trees, Spanish Chestnut, Oaks and Beech. We measured the girth of the largest Spanish Chestnut (*Castanea sativa*) which was approximately 610 cm, about 20 feet. Hopetoun became famous for its cedars in the 19th century and one of these giants measures approximately 510 cm, almost 17 feet in girth.

We had a quick look at Bog Wood, a north-facing slope looking across the River Forth. This area is being prepared for access to visitors. Alders and Aspen have colonized the water-logged ground and in the cool, moist conditions, ferns and bryophytes grow readily. We noted Hart's Tongue (*Phyllitis scolopendrium*) and Hard Shield fern (*Polystichum aculeatum*) growing well. A carpet of snowdrops looked very attractive.

Along Sea Walk Trail, we examined more trees, some stopping to admire a massive fallen Sweet Chestnut log now supporting three self-seeded Birch trees, one almost as tall as the tree canopy. Others noted were a Giant Sequoia (*Sequoiadendron giganteum*), a very old European Larch (*Larix decidua*) and male Yew trees (*Taxus baccata*) shedding pollen. Then we had a quick look at the Red Deer herd in North Deer Park. Lunch was eaten on a sunny bank along Hope's Walk, overlooking "The Clumps", trees planted in 1820, which include Holm Oak (*Quercus ilex*).

Being rather chilly, we moved to the south side where I pointed out a *Cotoneaster frigidus*, a Tree Cotoneaster completely hidden by Yew and Portuguese Laurel (*Prunus lusitanicus*). We noted several plantations of forest trees which really have no proper place in a parkland, but these trees are now maturing and being felled for timber. They will not be replaced as an Arboretum is planned instead.

Hopetoun's special tree is Morinda Spruce (*Picea smithiana*), a lovely weeping spruce grown for the first time in Europe by a very skilled Hopetoun gardener, James Smith, who worked for 60 years, man and boy, and whose tombstone is in Abercorn churchyard. He grew on seed and then grafted some of the saplings on to Norway Spruce (*Picea abies*) in 1826, and the grafting scar is very obvious. Finally we had a quick look at the north-facing slope of the Walled Garden where three more of the Morindas grow, one grafted, the others growing normally and all of a very large size.

On the south-facing slope all the flowers, fruit and vegetables were produced by a team of about 20 gardeners for the Big House, but nowadays the Walled Garden has become a very fine Garden Centre run by Dougal Phillip.

Mary Robertson
(Ranger at Hopetoun)

Muiravonside Country Park, 25 March

A sunny but cold morning greeted the 17 members who gathered at the main car park of the 170-acre Muiravonside Country Park. Set in the rolling countryside SW of Linlithgow, the attractions of its woodlands and grasslands are enhanced by the River Avon. The meandering river flows through a steep-sided, wooded gorge on the southern boundary of the Park, then turns sharply north to flow beside the Union Canal and beneath Scotland's longest and tallest aqueduct.

The north face of the Avon Gorge, where we spent the morning, is an ancient woodland mix of Oak, Ash, Hazel and Beech with Yew and the ubiquitous Sycamore. There is not a lot to see in early spring or is there? A Goldcrest was heard and we noted the distinctive black buds of Ash and the hairy twigs and buds of Hazel and Wych Elm, hazel with yellow-green buds, those of elm being an attractive maroon or brown. Less clear for identification was the brown bark of either ash or sycamore (branches too high to examine). Both trees normally have smooth grey bark when young but which can be brown.

An under-storey of shrubs was mainly Snowberry (*Symphoricarpos albus*, formerly *nivularis*) and Dogwood (*Cornus sanguinea*). Greater Woodrush (*Luzula sylvaticum*) dominated the ground flora, but here and there stands of Tuberous(?) Comfrey (*Symphytum tuberosum*), Leopardsbane (*Doronicum pardalianches*), Woodruff (*Galium odoratum*), Lords and Ladies (*Arum maculatum*), Hard Fern (*Blechnum spicant*), and Hard Shield Fern (*Polystichum aculeatum*) were visible. Beside the lowest path which runs alongside the river was a colony of Blue-eyed Mary (*Omphalodes verna*) in flower (not to confused with the larger, coarsely hairy Green Alkanet, both members of the Borage family). Alternate-leaved Golden Saxifrage (*Chrysosplenium alternifolium*) was growing beside the old mill lade further along this path. Badger setts were much in evidence.

After lunch in the former kitchen garden of Muiravonside Estate, before it became a Country Park in 1978, a short detour was made along the mill lade to the stately Wellingtonia (*Sequoiadendron giganteum*), its soft fibrous bark dotted with the roosting holes of the Tree Creeper.

The rest of the afternoon was in the entertaining and informative hands of the Ranger, Chris Fox. We walked along the aqueduct, and back to Causewayend, an area, currently outside the Park, of former industrial activity involving the railway, ironworks and brickworks. Near the site of the brickworks grow four species of Helleborine and other uncommon plants, more than enough to merit a summer visit.

Graham Swift

Harestanes Countryside Centre, 29 April

Those of the 16 members who had made a visit to what was, until 1992, the Monteviot Woodland Centre, were pleasantly surprised by the change wrought in the hands of the Borders Regional Council as the Harestanes Countryside Visitor Centre. Lord Lothian created the Woodland Centre to promote the Monteviot Estate. The BRC now run a ranger service dedicated to interpret the whole of the Borders countryside to the public. We were led in the morning by Rangers Tanya Haughs and Michael Scott. The latter showed us his wildlife garden in preparation, with its attractive willow arch and willow fence and separate blocks featuring a nectar border, a woodland area of native species, a colourful area of annuals and a pond.

Five walks of varying interest, courtesy of Lothian Estates, have been laid out. We were taken along the 'Blue' walk to the Teviot, passing along the way examples of trees planted 150-200 years ago. These included a Spanish (or Hedgehog) Fir (*Abies pinsapo*) across from the old sawmill, and stands of Sweet Chestnut (*Castanea sativa*). New plantings are being encouraged. All around was the fresh green of spring and multitudinous bird song. Less common or inconspicuous plants noted were the Three-veined Sandwort (*Moehningia trinervia*), Opposite-leaved Golden Saxifrage (*Chrysosplenium oppositifolium*), Slender Speedwell (*Veronica filiformis*), Meadow Saxifrage (*Saxifraga granulata*) and Moschatel or Town Hall Clock (*Adoxa*

moschatellina). *Adoxa* means without glory though it is the only member of this family in Europe. A number of summer visitors were recorded - a Garden Warbler, Willow Warbler, Chiffchaff and Blackcap - sharing the locality with Goldfinch, four species of Tit and Tree Creeper seen in the birch plantation.

Lunch was taken on the south bank of the Teviot in the hope of a Kingfisher sighting, but not today, 'just' a pair of Common Sandpipers. Those who took the 'Green' Walk to Peniel Heugh with its distinctive monument commemorating the Duke of Wellington and the Battle of Waterloo, enjoyed a panoramic view of the Border country. Plants seen en route were those of bare places or bare grassland, Common Whitlow Grass (*Erophila verna*), Parsley Piert (*Aphanes arvensis*), and, on the summit, Stonecrop (*Sedum acre*) and Thyme (*Thymus serpyllum*). A small pond at the base of a rock outcrop was, unusually, filled with Floating Sweet-Grass (*Glyceria fluitans*). Another grass noted in the morning, between the viewing platform and the doocot, was the rare Broad-leaved Meadow Grass (*Poa chaixii*) introduced by the Estate as an ornamental grass.

This visit would have been worthwhile just for the tea-room, and the excellent 'BBC Wildlife Photographer of the Year' exhibition. A programme of countryside exhibitions runs daily throughout the season at this enterprising Countryside Centre.

Graham Swift

Linlithgow Loch and Bo'ness, 6 May

In beautiful sunshine, about sixteen members had a leisurely and interesting walk round Linlithgow Loch. Near the edge and on the islands Mute Swans and Coots were sitting on nests and there were two Mallard families each with eight or nine chicks. We watched Coots fighting, a pair of Great Crested Grebes in courtship display and nearby two Little Grebes swimming about and proclaiming their presence by whinnying trills.

We had a superb view of Sedge Warblers ascending with wide spread wings and descending to perch near the tops of reeds. On the same reeds was a much quieter male Reed Bunting.

Other birds seen were Oystercatcher, Kestrel, Greenfinch, Yellowhammer, and Swallow. We heard Coal Tits, Great Tits and Willow Warbler. To end a very satisfactory morning, the leader spotted a male Gadwall flying over the loch. It settled and we had an excellent view.

After lunch we went to Bo'ness and did a coastal walk. This was not so successful ornithologically but very pleasant with the trilling and warbling of Skylarks filling the air. Common Sandpiper had been seen earlier in the week. Linnets were seen and again Willow Warblers heard.

In flower were Changing Forget-me-not (*Myosotis discolor*), Common Vetch (*Vicia sativa*), Common Whitlow Grass (*Erophila verna*), Greater Birdsfoot Trefoil (*Lotus uliginosus*)[†], Kidney Vetch (*Anthyllis vulneraria*) and Weld (*Reseda luteola*). Some fungi species were found including *Coprinus atramentarius* and *Calvatia excipuliformis*. In part of a fungus, a Crab Spider was guarding an egg-sac. Orange Tip and Small Tortoiseshell butterflies were spotted.

Mary Maclean

Portencross to West Kilbride, 13 May

Twenty members of the Society met at Hunterston Power Station Visitor Centre on a bright sunny day.

After inspecting the Visitor Centre we walked south three kilometres to Portencross Castle. A diversion was taken from the track, which runs over a raised beach platform, through deciduous woodland. Sheltering the woodland on the eastern flank was a raised beach feature

[†] JM thinks it may have been too dry and too early for *Lotus uliginosus* to be in flower, and that this may have been a large form of *Lotus corniculatus*.

composed of a felsite sill commonly known as the Three Sisters. The area is basically composed of Old Red Sandstone with igneous intrusions. Near the old pier the track cuts through a quartz dolerite dyke.

The dyke is a botanically rich area with Scots Lovage (*Ligusticum scoticum*), Sea Campion (*Silene uniflora* formerly *maritima*), Bloody Cranesbill (*Geranium sanguineum*), English Stonecrop (*Sedum anglicum*) and many others. At the castle we saw Lesser Swinecress (*Coronopus didymus*), Sea Radish (*Raphanus maritimus*) and Sea Sandwort (*Honkenya peploides*). The marsh area produced sedges, Purple Loosestrife (*Lythrum salicaria*) and the woodland a delightful stand of Shining Cranesbill (*Geranium lucidum*).

There was an equally diverse cross-section of bird-life. At sea we watched Gannets and Cormorants fishing. On the shore, Eider, Merganser, Heron and Oystercatcher were in evidence. Warblers sang from the shrub areas while Fulmar and Buzzard soared around the cliffs.

In conclusion, a delightful area giving superb views of the Clyde islands with a remarkable variety of habitats which reflect a rich menu of birds, flowers and insects.

Ian McCallum

Carlops - Spittal circuit, 20 May

A walk from Carlops to the North Esk Reservoir and over to Spittal doesn't sound very rewarding for naturalists. But when led by a knowledgeable Pentlands Ranger, Michael Jones, and 'addressed' by farmer Mary Howie at Spittal farm, the day proved to be richly rewarding.

The route traversed part-way up Fairliehope Burn, an SSSI (SWT) of herb-rich grassland. Here we saw Rockrose (*Helianthemum nummularium*), Mountain Everlasting (*Antennaria dioica*) and Yellow Pimpernel (*Lysimachia nemorum*). The North Esk reservoir is home to 1200 pairs of Black-headed Gulls, amongst which two pairs of Common Gull were spotted. Other birds seen on the walk included Willow and Garden Warbler, Pied and Grey Wagtail, Dunnock, Meadow Pipit, Goldfinch and a Teal in flight at the Fairliehope Burn.

The leader handed over to Mary Howie on the Spittal Hill after lunch. She met us on an AT quad bike, a boon to all hill farmers. Mary has farmed Spittal land, nearly all over 1000 ft., for thirty-three years. She is a great advocate of Galloway cattle for improving the coarse hill grasses for sheep, and also for its eating quality.

Graham Swift

East Lomond Circuit, 27 May

On a wet day, eight members gathered at Craigmead car park and spent the morning on a shortened woodland circuit. This included Maspie Glen which seemed to have the botanical and ornithological potential and certainly the scenic beauty to deserve a return visit under more favourable circumstances.

Five members stayed after lunch to dash up and down East Lomond, the rain relenting long enough to allow a satisfying view from the summit.

Munro Dunn

Clink Forest and Abernethy Glen, 3 June

Clink Forest forms part of Pitmedden Forest which straddles the border between Tayside and Fife Regions. The trees in the forest were planted between 1921 and 1970 and include a mixture of broad-leaf and conifer types. Some of the species seen were Corsican Pine, Norway Spruce, Larch and some native broad-leaf trees such as Elm, Beech, Rowan, and Willow.

There was a variety of flowers including Field Madder (*Sherardia arvensis*) and Common Vetch (*Vicia sativa*). A very attractive green spider - *Dysdera crocata* - was seen in a wild rose bush. At various points along the route there are fine views of the Fife farming country with the Lomond Hills as a background. It is an attractive area to visit at any time of year.

After lunch we went by car to Abernethy, and walked up the Glen. Meadow Saxifrage (*Saxifraga granulata*) and Betony (*Stachys officinalis*) were growing by the side of the path. A number of Common Twayblade (*Listera ovata*) plants were found in Loanhead Quarry, where three local schoolboys who had tagged on to the group kept Jimmy Stewart busy identifying spiders and harvestmen.

The area around Abernethy is rich from a natural historical point of view, but it is also steeped in historical interest. The town of Abernethy was once a Pictish capital, and one can visit the Round Tower, which is an early ninth century building. More information about the area can be found in a leaflet available from the tea-room close by the tower.

Christine Campbell

East Lammermuir Deans, 10 June

Although the summer was generally so hot and dry, we had, unfortunately, a wet day for our visit to these spectacular deans. We were in an area which had been covered by ice up to several hundred metres thick until fifteen thousand years ago. Lower-lying parts of the area were blanketed by boulder clay, deposits which came from the soles of glaciers with high sediment loads. When the glaciers started to melt, the higher ground to the south was ice-free at first, and the ice was left resting against the lower slopes of the Lammermuir. Meltwaters poured over and through the ice, cutting through the boulder clay and leaving large river-valleys quite out of proportion to the small streams which may now run along the bottom. Depending on the way the meltwaters were channelled, wide valleys were cut, or in some cases the soft Old Red Sandstone below the boulder clay was cut down to produce narrow ravines.

Before lunch we went up the Sheep Dean which is an example of a deeply cut ravine, possibly following the line of a fault. At first the bed of the Aikengall burn was very flat and about as wide as a narrow road, with precipitous, rocky sides. The vegetation was lush and ungrazed, rich in woodland species. Fallen trees dammed up deep pools which impeded progress and the walls became closer together. After a while, further progress was impossible so we retraced our steps and gratefully sheltered in a barn to eat our sandwiches.

In the afternoon, the more intrepid members set off for a very different kind of dean. Fortunately the weather improved as we arrived at a wide open valley where the sandstone has continued to erode long after it has been exposed. The Old Red Sandstone at this point was the result of flash floods in desert conditions. Great volumes of pebbles and boulders were swept along and re-sorted, then arid oxidizing conditions could prevail until the next episode. We, however, saw considerably more vegetation than would have existed around 400 million years ago when only the earliest land vegetation would have been seen; it was mostly allied to ferns. A small dyke of molten rock had once cut across the rocks in this area and is left as a hard ridge in the bottom of the valley with some hardened fragments of the sandstone on either side. The floor of the valley has a small river which appeared and disappeared among thick deposits of pebbles derived from the red sandstone. The erosion was reminiscent of a small-scale 'bad-lands' topography. Many odd shapes were revealed of pillars and buttresses where one larger rock would be left protecting a pillar of pebbly conglomerate below. Although the day was overcast, the wet rocks looked very attractive with their bright red colouring.

Heather McHaffie

Dreghorn to Bonaly, 14 June

It was a warm, sun-drenched evening for the twelve members who assembled at Dreghorn to look at grasses. The path from Dreghorn heads south, runs alongside Howden Burn, passes underneath the city by-pass and straddles the foot of White Hill round to Bonaly.

KEY TO COMMON GRASSES-Graham Swift

LEAVES BRISTLE-LIKE	Rhizomes Present	Very Short Ligule	Red Fescue			
		Comb-like Basal Sheath. Rh.Short Thick blunt Ligule.	Moor Mat Grass			
		Minute Ligule	Sheeps Fescue			
		Two Erect Lugs	Wavy Hair Grass			
	No Rhizomes					
	LEAVES FOLDED IN SHOOT	Lower Leaf Surface Glossy. Ribbed Above	Auricles Present Red Base	Perennial Rye-grass		
			No Auricles Yellow Base	Crested Dogstail		
		Upper Leaf Surface Not Ribbed	Tramlines Present	Meadow Grasses (see below)		
			No Tramlines	Cocksfoot		
L E A V E S E X P A N D E D	LEAVES HAIRY	Auricles PRESENT	White Rhizomes Present	Couch		
			No Rhizomes.	Barley Grass		
		Auricles ABSENT	Red Veins on Basal Sheath	Rhizomes Present Sparse Hairs	Creeping Soft- grass	
				No Rhizomes.Hairy Leaves and Sheath	Yorkshire Fog	
			No Red Veins	Short Ligule	Soft Brome	
				Medium Ligule	Barren Brome	
			"Auricles" Tuft of Hairs	Sweet Vernal- grass		
			LEAVES NOT HAIRY	Auricles PRESENT	Remains of Old Leaf Sheaths at Base - Red	Hairs on Auricles
		Hairless Auricles				Meadow Fescue
		NO Remains of Old Leaf Sheaths at Base			Italian Rye-grass	
	Auricles ABSENT	Rhizomes or Stolons Present		Rhizomes Long. Long-toothed Ligule	Black Bent	
				Rhizomes Short. Short Blunt Ligule	Common Bent	
		Leaves triangular in shape		Stolons. Pointed Ligule	Creeping Bent	
				Base Bulbous. Dark Brown Leaf Sheaths	Timothy-grass	
		No Rhizomes or Stolons		Base NOT Bulbous Purple Leaf Sheath	Slender Fox-tail or Black Grass	
				Base Dark Brown. Short Ligule	Meadow Fox-tail	

MEADOW GRASSES	Tufted, Crinkled Leaves, Large Ligule	Annual
	Stolons, Shiny Leaves, Pointed Ligule	Rough - stalked
	Rhizomes, Parallel-sided Leaves, Short Ligule	Smooth - stalked

The first grass noted typified the variability to be found in the grass species. This was Wood Meadow Grass (*Poa nemoralis*). In deep shade, as were these plants, this grass is 1-2 flowered; in slight shade where it can grow larger, 3-5 flowers are produced. Another oddity found in tall grassland alongside a grassy path was another Meadow Grass, Smooth-stalked (*Poa pratensis*). This had, unusually, minute hairs on the lower leaves.

To help identify the common grasses, the vegetative key reproduced in this Journal (see page 30) gives a sequence of criteria to look for - bristle-like or flat leaves, - rolled or folded shoots, - hairy or hairless, - with or without auricles. Inflorescences are either spikes, spike-like or branched, with or without awns. One locally uncommon grass was found beside the path on White Hill above Bonaly Wood. A hairy grass with 3-flowered, awned spikelets in a branched inflorescence, it was later identified as Hairy Oat-grass (*Helictotrichon pubescens*), a grass normally found on calcareous or gravelly soils at the foot of hills or in lowland grassland.

Few flowering plants were in evidence, but the locally common, Wood Sanicle (*Sanicula europaea*) and Rough Chervil (*Chaerophyllum temulum* formerly *temulentum*), with purple stems, were noted on this most enjoyable of walks.

Graham Swift

Balchroich Meadow Reserve, Keltneyburn (NN 774492), 17 June

Checking old journals, I see that I wrote the account of the Society's last visit to Keltneyburn on 17 July 1982. I seem to remember going by bus on that occasion and on the return journey one of our members (Helen Miller) was left behind so we had to turn back.

We were welcomed this year by Mrs Kirsty Dickens, Warden of the Reserve and by Mr Peter Cramb, Chairman of the SWT Perthshire branch and his wife Margaret. Balchroich Meadow is a very rewarding area for naturalists to visit and we had a good day with lovely weather. The orchids are a special delight and we were not disappointed. We found the rare Small White Orchid (*Pseudorchis albida*) on a grassy knoll, with Alpine Bistort (*Polygonum viviparum*) and Chickweed Wintergreen (*Trientalis europaea*) close by. Butterfly (*Plantanthera chlorantha*) and Fragrant (*Gymnadenia conopsea*) Orchids were found in bud. One Northern Marsh Orchid (*Dactylorhiza purpurella*) was in flower, a lovely plant, and a Common Spotted Orchid (*D. fuchsii*) in shades ranging from white to dark purplish-pink. Moving towards the woodland lower down the slopes we found a dozen or so splendid spikes of Bird's Nest Orchid (*Neottia nidus-avis*), a saprophyte living on decaying vegetation; it was under birch, along with several young Twayblade (*Listera ovata*). Spignel (*Meum athamanticum*) and the lovely Globeflower (*Trollius europaeus*) among the marsh plants.

Keltneyburn Gorge, leading up to Garth Castle, was explored in the afternoon. On its dangerously steep slopes, old Oaks and Hazels, many of them with ancient coppicing scars, were seen. A line of Beech has been planted on the way up to the castle, where there are some good Scots Pine. Bird Cherry (*Prunus padus*) and Wood Cranesbill (*Geranium sylvaticum*) were noted. There was also a nice selection of ferns, Beech Fern (*Phegopteris connectilis*), Oak Fern (*Gymnocarpium dryopteris*), Lemon or Mountain Fern (*Oreopteris limbosperma*), Hard Fern (*Blechnum spicant*), Polypody (*Polypodium vulgare*) and Brittle Bladder Fern (*Cystopteris fragilis*) which was found where a trickle of water oozed from the bank.

Jim Stewart found several spiders, one so small I wonder it was ever seen, 'Oh it was under a leaf', said he! We were learning to distinguish the males with their 'boxing gloves' and the rounder-bodied females thanks to Jim's tuition, patience and enthusiasm. We heard several warblers, - Whitethroat, Willow Warbler, Garden Warbler, and Blackcap. An Orange-tip butterfly was seen - rather a surprise. Frog, toad, and newt had delighted the young Adamsons. The sedges *Carex nigra*, *C. pilulifera*, *C. panicea* and *C. vesicaria* were noted in various parts of the reserve. In the 'pylon field' were lovely Wild Pansies (*Viola tricolor*), many more Common Spotted Orchids and, in a marshy hollow, Marsh Cinquefoil (*Potentilla palustris*) and Marsh Speedwell (*Veronica scutellata*); and the leaves of Marsh Violet (*Viola palustris*) and Marsh Lousewort

(*Pedicularis palustris*). Members who climbed further up the gorge found Sundew (*Drosera rotundifolia*), I am told. The plant list is endless! I cannot include them all, but the comprehensive list is available from Mrs Kirsty Dickens on request. Incidentally, this lady was delighted to have such an enthusiastic and (dare I say?) knowledgeable group to escort around the reserve.

Mary Robertson

Holyrood Park, 21 June

When Holyrood Park is mentioned the mind automatically turns to the Arthur Seat volcanics, but we discovered that there are many other things in the park worth investigating.

Among the trees near the Park gate are two types of Whitebeam - *Sorbus aria*, the Common Whitebeam and *Sorbus intermedia*, the Swedish Whitebeam. While both of these have oval leaves which are a dull green above and lighter underneath (almost white in *Sorbus aria*), the leaves of *S. aria* are toothed while those of *S. intermedia* are deeply lobed. We also compared *Alnus glutinosa* the Common Alder, with *A. cordata*, the Italian Alder. The former's leaves are somewhat rounded with an indented tip, the latter's heart-shaped and very much finer in texture. The flowers, though much larger in *A. cordata*, are very similar and the cone-like female catkins also remain on the tree until the following year.

We moved on to grasses, which ranged from the very common Rye-grass (*Lolium perenne*), Yorkshire Fog (*Holcus lanatus*), Crested Dog's-tail (*Cynosurus cristatus*), and Meadow Foxtail (*Alopecurus pratensis*) etc to various Oat-grasses (e.g. Meadow Oat-grass, *Helictotrichon pratense* and False Oat-grass, *Arrhenatherum elatius*), Silvery Hair-grass (*Aira caryophyllea*) and the tiny Hard Poa or Fern Grass (*Catapodium rigidum*).

After a very quick history of the Arthur Seat volcanics from the Carboniferous to the present day we set off along the Radical Road.

1997 will be the bicentenary of the death of James Hutton, the founder of modern geology. Hutton was born and brought up in Edinburgh. Going against the thinking of his time, he maintained that the Earth was immeasurably old and that some rocks are sediments formed from the erosion of earlier rocks while others are igneous, crystallized from molten material from deep within the Earth. We looked at Hutton's section of Salisbury Crags which were formed by an intrusion of hot molten rocks into the sediment in the form of a sill. We followed the junction between the base of the dolerite sill and the bedded sediments, noting the fine-grained margin of the sill and the baked margin of the sediment and how portions of the sediment had been caught up in the igneous intrusion. Further along, Hutton's Rock shows a vein of Red Haematite while a little further on still there is a section which shows clearly how the sedimentary strata have been contorted by the force of the intrusion.

Around the base of Salisbury Crags, there was a large variety of flowers, including Black Medick (*Medicago lupulina*), Hop Trefoil (*Trifolium campestre*), Rough Chervil (*Chaerophyllum temulum*) and Hemlock (*Conium maculatum*), Thyme-leaved Sandwort (*Arenaria serpyllifolia*), Wild Onion (*Allium vineale*), Weld (*Reseda luteola*) and Soft or Knotted Clover (*Trifolium striatum*).

Birds were scarce, but Fulmars were calling and soaring near the rocks, where they appeared to be nesting.

Betty Mitchelhill

Carberry Tower and Lennoxlove, 24 June

This excursion, on a lovely summer day, turned out to be a ladies only event. Twelve of us explored a little of the tree garden at Carberry Tower, near Musselburgh, former home of the Elphinstone family who gifted the estate to the Church of Scotland in 1961. Lord Elphinstone's fine collection of trees has resulted in many mature specimens rarely seen elsewhere; a list of six hundred trees and ornamental shrubs has been compiled. A magnificent Copper Beech (*Fagus*

sylvatica purpurea) on the south lawn has several branches which appear to have rooted where they sweep down to the ground. It was laden with red beech mast. Beyond this stands a handsome Hungarian Oak (*Quercus frainetto*). Among the rare trees we found Chinese Pemy Holly (*Ilex pernyi*), the Snowbell tree (*Styrax japonica*) in bud, a Dogwood in flower (*Cornus controversa*) and Persian Ironwood (*Parrottia persica*).

The dried-out curling pond is completely filled with Yellow Flag (*Iris pseudocorus*) lovely in full flower. Woody Nightshade (*Solanum dulcamara*), Water Forget-me-not (*Myosotis scorpioides*), Creeping Jenny (*Lysimachia nummularia*) and *Carex pendula* grew on the margins. I think our most exciting find was the Giant Oxeye Daisy (*Telekia speciosa*) first seen by Eleanor O'Donnel as she sat quietly enjoying the day. After a picnic lunch we moved to Lennoxlove, Haddington, home of the Duke of Hamilton, where there is a delightful, sheltered garden and a small arboretum.

From the Lodge, an avenue of oaks line the long drive to the house. Vehicles are routed round a circle of cherry trees set in grass to reach the car park, a novel and very attractive feature. Beside the house is a well-shaped Dawn Redwood (*Metasequoia glyptostroboides*). A fine old Hombeam (*Carpinus betulus*) and a Lime (*Tilia x vulgaris*) mark the entrance to the arboretum. Our attention was drawn to a venerable Beech (*Fagus sylvatica*) beneath which white flowering Purslane (*Claytonia sibirica*) grew, and where giant specimens of *Ganoderma* fungi had tucked themselves between its 'toes' at the base of the huge trunk. A Spanish Chestnut with an enormous bole showing the characteristic spiral pattern in the bark appears to be the oldest tree, possibly 400 years old, a splendid specimen.

Several promising young trees have been planted, including the Armenian Red Chestnut (*Quercus rubra*), Noble Beech (*Nothofagus obliqua*), Lotus Tree (*Robinia pseudoacacia*), a blue Atlantic Cedar (*Cedrus atlantica*) and a fine Japanese Cedar (*Cryptomeria japonica*). We noted also an *Eucryphia* of a different kind from one we had seen at Carberry. Several varieties of Maple, Lilac, Rhododendron, Azalea, *Prunus* and *Rosa rugosa* species added to the general interest.

The flower garden is enclosed by a tall yew hedge. We admired the many varieties of peony along the herbaceous border. On our way out we saw the plantation of oaks, about 15 years old, which the factor informed us had been grown from acorns taken from the old oaks on the Hamilton estate at Chatelherault, Lanarkshire.

Mary Robertson

Roseburn - Crewe Toll cycle track, 28 June

Edinburgh is very fortunate in having unexpected quiet areas where interest abounds right in the middle of the city. The Roseburn - Crewe Toll track is an example. The asphalt surface makes for easy walking and being an old railway track, it is on the level. Several metres of unmanaged verges on either side revealed a surprising variety of plants (40-50 species), and though there was nothing uncommon, it was interesting to compare, for example, White Campion (*Silene latifolia* formerly *alba*) and Bladder Campion (*S. vulgaris*); Common Toadflax (*Linaria vulgaris*) and Purple Toadflax (*L. purpurea*).

Grasses also were in full flower but there were very few birds to be seen. A badger sett, however, added another item of interest.

Betty Mitchelhill

Craik Forest, 1 July

Ian Robson, Conservation and Recreation Officer working for Forest Enterprise, met us at the entrance to Craik Forest. He explained that the forest was planted in 1920 and after one complete phase it is now in its second phase of growth. Felling areas are designed, with the aid of a computer, to give the best aesthetic appeal to the forest. Felling has been planned until the year 2030. Some of the best growing areas cause difficulties at harvest time because of the terrain.

These places are being left as open spaces where the germination of other species is welcome. Seventy-five thousand tons of timber are removed annually from the Border Forests. It is predominantly Sitka Spruce that is grown and as the planting is mainly on upland areas, wind is a factor in deciding that the trees should be felled at a height of 19-21 metres.

Within the forest there are Roe Deer, Badger, Red Squirrel, Buzzard, Goshawk, Peregrine, Merlin and Barn Owl. There are eagles in some of the Border forests and Ian is trying to entice them to breed at Craik. Six hundred and fifty deer are culled from the Border Forests and sent to dealers each year. The aim is to remove a quarter of the population annually. It seems that Sika Deer are now spreading into the forest from the Tweed valley.

We lunched by Kingside Loch where small islands have been created to encourage Wigeon to breed. They are constructed of polystyrene covered with carpet and turf. Alas, the islands have been taken over by Black-headed Gulls. Once when Ian visited the loch, the islands had disappeared. It transpired that Voles had eaten the carpeting. They had been able to reach the islands when the loch froze and had been marooned when the thaw came.

To attract birds, broad-leaved trees - Rowan, Oak and Alder - have been planted round the loch. Amongst the Tufted Hair-grass (*Deschampsia cespitosa*) there were Heath Spotted Orchids (*Dactylorhiza maculata*) and by the loch-side Marsh Cinquefoil (*Potentilla palustris*).

Several Small Pearl Bordered Fritillary butterflies were in flight and *Paradosa amentata* spiders were observed scurrying over the surface of the water. One was carrying an egg sac, and the other was carrying young spiderlings. And oh yes - the biting midges were a bit of a nuisance.

Ena Gillespie

Loch Moraig, 8 July

The Natural History Society's Alpine meeting was to Loch Moraig this year, and must probably count as the least strenuous, lowest-level Alpine meet ever. However, the setting is a splendid one, with a fine mountain panorama: Ben Vrackie to the south-east, the Beinn a'Ghlo hills to the north and Beinn Dearg to the west, beyond Glen Tilt. The southwest ridge of Cam Liath, the southernmost of the Beinn a'Ghlo hills is approached from here, and it certainly made a fine backdrop to the Loch.

The weather was unusually fine too for an Alpine meet, perhaps because we were nowhere more than about 3/4 of an hour's brisk trot from the cars.

Since my previous visits had been in August, I was looking forward to an earlier visit. We missed out on the Autumn Gentians and the Scotch Argus butterflies, but we were able to add a number of orchids to the plant list.

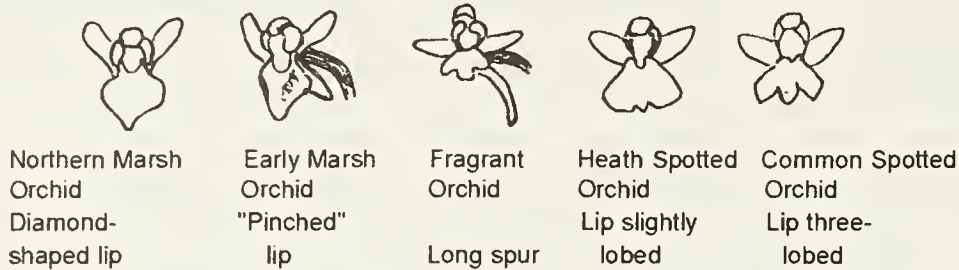
The terrain is fascinating with base-rich glacial moraines and flushes interspersed with more heathy areas and patches of bog in which *Sphagnum* is growing. The loch itself is host to a number of rare pondweeds (which we did not investigate) and is surrounded by grazing, marshy areas and more base-rich flushes.

We spent the first part of the day botanizing the roadside verges which are rich with Thyme (*Thymus polytrichus*), Rockrose (*Helianthemum nummularium*), Fairy Flax (*Linum catharticum*), Quaking Grass (*Briza media*), Frog orchid (*Coeloglossum viride*), Crested Hair Grass (*Koeleria macrantha*) and Purple Milk-vetch (*Astragalus danicus*), together with more ordinary plants such as Buttercups and Daisies, Clovers and Ribwort Plantain.

Later, a move onto the flushed grassland and moraines to the west of the road revealed a number of orchids which had not been identifiable in August: Early Marsh (*Dactylorhiza incarnata*) with its pinched lower lip; the deep purple Northern Marsh (*D. purpurella*); the sweet-smelling pinkish-purple Fragrant Orchid (*Gymnadenia conopsea*) with its long spur that only a butterfly or

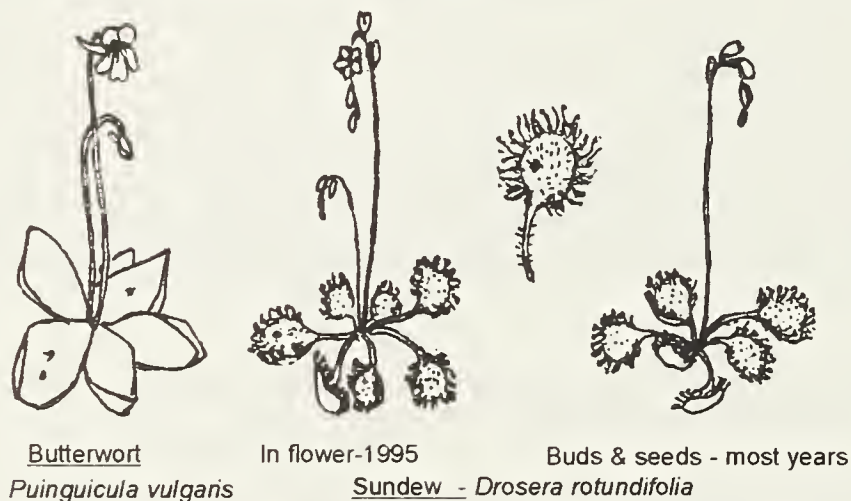
moth can reach into; Twayblade (*Listera ovata*) with its twa' blades (leaves) and Heath Spotted Orchid (*Dactylorhiza maculata*) with its spotted leaves. *Dactylorhiza maculata* is distinguished from its lowland cousin *D. fuchsii*, the Common Spotted Orchid by its lower lip which is broad with only a small tooth in the centre, while *D. fuchsii* has a lower lip divided into three almost equal segments.

Distinguishing features of orchid flowers



Globeflower (*Trollius europaea*) was in flower and there were plenty of rushes, marsh plants and sedges, including the Broad-leaved Cotton Grass (*Eriophorum latifolium*) found only in base-rich flushes. Two of our native insectivorous plants were present: Common Butterwort (*Pinguicula vulgaris*) with its purple flowers and sticky leaves, and Common Sundew (*Drosera rotundifolia*) nestling in wet *sphagnum*, for this plant is found only in wet acid areas. It was too early for *Drosera* to put up a flower spike, so only the rosettes of red leaves with their large glandular hairs were visible. Actually it confounded me this year; usually in Scotland it self-fertilizes in the bud, and you never see an open flower, but this year by late July the *sphagnum* was dotted with its tiny starry flowers- a phenomenon almost certainly brought on by the dryness of the season.

Common insectivorous plants



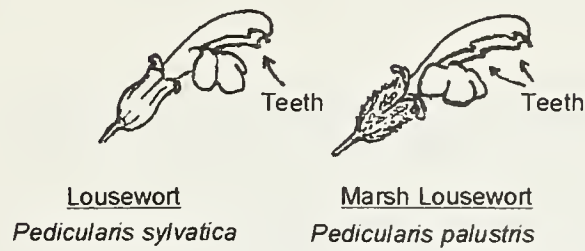
After a pleasant lunch on the moraines, we toured the Loch, picking up some additional water plants and adding to our list of alpine, which included both Scottish (*Tofieldia pusilla*) and Bog (*Narthecium ossifragum*) Asphodel, Northern Bedstraw (*Galium boreale*), Mountain Everlasting (*Antennaria dioica*), Alpine Meadow Rue (*Thalictrum alpinum*), Mountain Pansy (*Viola lutea*) and the dainty Hair Sedge (*Carex capillaris*).

Insect life included the Common Blue Damselfly, mayflies, grasshoppers, Clegs (alas) and a number of butterflies; Small Heath, Common Blue, a fritillary and a white, plus the Chimney Sweeper Moth.

Birds included Curlew, Oyster Catcher, Mallard, Greylag, assorted gulls, and a possible grebe on the Loch, plus a large flock of Lapwings - not such a common sight these days.

Some interesting plant comparisons were possible. Both the Common (*Pedicularis sylvestris*) and Marsh (*P. palustris*) Lousewort were present, and though the larger much-branched Marsh Lousewort is usually easy to distinguish from its small prostrate relative, it may sometimes be heavily grazed. Then it is as well to look at the flower. The calyx (fused petals) of Marsh Lousewort is hairy, while that of Common Lousewort is smooth (except for a sub-species found only in the Outer Hebrides). In addition, the upper lips of both Louseworts have two teeth near the front ('canines'), while only the Marsh Lousewort has two at the back as well ('molars').

Comparison of the flowers of Marsh and Common Lousewort



We were also able to compare three species of cottongrass. Harestail (*Eniphorum vaginatum*) is the only one with a single upright hairy seed. It is acid-loving but favours slightly drier habitats than the other two, often forming tussocks. Both Common (*E. angustifolium*) and Broad-leaved (*E. latifolium*) Cottongrass have multiple seed-heads, hanging on short stalks. Common Cottongrass is found in really wet acid places, the stem-leaves are long and keeled, and the plant has a tendency to redden with age, damage or dryness. Broad-leaved Cottongrass is much rarer, being confined to calcareous flushes. Its stem-leaves are not much broader than those of Common Cottongrass, but they are shorter and flatter - and the plants tends to go yellow rather than redden.

Most of the party were staying on for a second unofficial day, so we decided at the end of the day to eat in Pitlochry, something which turned out to be easier in the planning than in the execution. One restaurant had a wedding reception, another was too expensive, a third was too full and so on. By the time we found a suitable place we had had considerably more exercise than expected - always a good excuse for a fattening pudding!

I left at this point, but I gather the party who remained had a most enjoyable trip to Ben Vrackie next day, and were successful in locating the patch of Brown Bog Rush (*Schoenus ferrugineus*) transferred from Loch Rannoch when the level was raised, as well as Alpine Milk-vetch (*Astragalus alpinus*) and Purple Oxytropis (*Oxytropis halleri*) on the cliffs.

Jackie Muscott

Duns Castle Estate, 22 July

In the eighteenth century, the Hay family, owners of Duns Castle since around 1695, improved their immediate surroundings by planting many trees and creating two ponds. Since then, nature has moved in. In recent years the ponds and main woodlands have been looked after by the S.W.T. as a nature reserve. Parts of the woodland are still managed for timber production and, while the castle itself is private, a number of well-marked paths allow public access to the reserve.

Murray Henderson, a knowledgeable local ornithologist and Trust member led our group round the reserve and, with the owner's permission, round the normally private western end of the larger pond which has the odd name of Hen Poo (corruption of Heron Pond). He also took some of the more energetic members of the party onto Duns Law for a panoramic view across Berwickshire to the Cheviot Hills. The Trust has put up a great many bird boxes which Marsh Tits and Redstarts have occupied within the last two years. The Ruddy Duck swimming on the Hen Poo near the end of our outing were the first he had seen in the reserve. Two pairs of swans had produced a total of nine cygnets and swallows skimmed the surface of the Hen Poo to drink. Heron, Chiffchaff, Bullfinch, Coot and Mallard were all seen or heard.

The Hen Poo is fringed by Bullrush (*Scirpus lacustris*), Reedmace (*Typha latifolia*) and Greater Spearwort (*Ranunculus lingua*). In the woods, Wintergreen (*Pyrola minor*) was in flower and Hop (*Humulus lupulus*) clambered up a tree. Massive Beech, Oak and Sweet Chestnut testify to the age of the woods. A few fungi were found, particularly *Amanita excelsa* and *A. rubescens*, but more rain was needed to bring on the wealth of species present. Finally, insects included the

butterflies Small Copper, Red Admiral, Meadow Brown, Small Tortoiseshell, and Large White; a Six-spot Burnet Moth, a Light Emerald Moth, and innumerable blue damselflies of at least two species.

David Adamson

Belhaven to East Linton, 29 July

At half past ten on a fine sunny morning, a party of twenty six plus a dog met in Belhaven car park.

Among the plants that caught our attention in the car park was yellow Giant Scabious, a vigorous garden escape. Also growing well and in flower was the Tree Mallow (*Lavatera arborea*). By the path sprawled Hoary Cress (*Lepidium* formerly *Cardaria draba*) 'an untidy perennial' mostly, at the end of July, with seed-heads. Over the wall, on the saltmarshes of Belhaven Bay, the tide being very low, we saw Sea Wormwood (*Seriphidium* formerly *Artemisia maritimum*), fairly rare in Scotland.

Another Scottish rarity, covering the wall by the Biel Burn, was Pellitory of the Wall (*Parietaria judaica*). An attractive plant, of the family *Urticaceae*, it was obviously enjoying the dry conditions. Farther on, only the seed-heads remained - after a long spell of hot weather - of Strawberry Clover (*Trifolium fragiferum*), of Purple Milk-vetch (*Astragalus danicus*), and of Goat's Beard (*Tragopogon pratensis*).

Yet some plants were still flowering in profusion: Melilot (*Melilotus officinalis*), Weld (*Reseda luteola*), Tansy (*Tanacetum vulgare*), Hardheads (*Centaurea nigra*), Creeping Cinquefoil (*Potentilla reptans*), Bladder Campion (*Silene vulgaris*) Storksbill (*Erodium* sp.), Cranesbill (*Geranium* sp.), and Sea Sandwort (*Honkenya peploides*) were but a few. I particularly remember the carpet of Restharrow (*Ononis repens*) spreading over the short turf. On the sunny grass of the pine wood, we found Centaury (*Centaureum erythraea*), in bloom.

Lepidoptera on this section of the walk included many Six-spot Burnet Moths (*Zygaena filipendulae*), their pupal cases left on the grass stems. The butterflies seen were Dark Green Fritillary (*Mesoacidalia aglaja*), Small Tortoiseshell (*Aglais urticae*), and Common Blue (*Polyommatis icarus*).

After lunch together beside the Belton Burn, about fifteen members and the dog went on while the others returned to watch birds, with an incoming tide, at Belhaven Bay. The highlight of their afternoon, as we heard later, was the sight of numerous Whimbrels (*Numerius phaeopus*). They caught their call and saw no fewer than ten birds. Sandwich Terns too were heard and seen.

The main body meanwhile skirted the sands of the Tyne and cut across towards the river. On a drouthy afternoon, we were pleased to pause for refreshment at Knowes Farm Shop. Then, passing Phantassie Doocot, we reached the Tyne and followed it to Preston Mill. On this section there were magnificent stands of Great Hairy Willowherb/ Codlins and Cream (*Epilobium hirsutum*), in ditches and on the river bank. Good King Henry (*Chenopodium bonus-henricus*) by the farm walls; Honeysuckle (*Lonicera periclymenum*) in the hedges; and purple Comfrey (*Symphytum* sp.) by the roadsides, were seen. Memorable, in the river at Phantassie Bridge, was a great clump of Monkey Flower (*Mimulus* sp.) in full bloom.

Numbers of Cinnabar Moth larvae (*Tyria jacobaeae*) were munching communally on Ragwort. We also saw Meadow Brown butterflies (*Maniola jurtina*), and Green-veined White (*Artogeia napi*).

Three Linnets, a young Mallard, a Sedge Warbler and a Yellowhammer or two were all the birds we saw after leaving the shore.

At East Linton, grateful car passengers were able to rest under the trees while drivers returned to Belhaven to fetch their transport.

Our thanks to Christine for a well-organized, relaxed and very enjoyable day.

Myra Sutter.

Barns Ness, 5 August

On a perfect summer's day at the beginning of August, Bill Baird led a party of 20 on what has become our annual 'Geological Outing'. Lime and limestone was the recurring theme throughout the day.

Leaving the car park, we moved westwards towards the limekiln. Limestone was dug out and mined here from 1790 right on until 1920. This has resulted in a very uneven terrain, the spoil heaps creating 'humps and bumps' and the excavations leaving depressions and valleys. Looking into the kiln from above, the lay-out and method of burning was explained. For those days the workers were well paid - the kiln-master in particular, as his job required great skill in regulating the amount of air admitted to the kiln to control the burn.

Moving down to the shore we gradually moved eastwards from the eastern end of the White Sands to the rocks below Barns Ness lighthouse.

Because the strata dip to the east, we were starting at the oldest rocks and gradually moving to younger. The recurring cyclothems of limestone, shale and sandstone were pointed out. This indicated a repeated change of sea-level. The warm shallow sea of the early Carboniferous was rich with life. We started on fossil coral - the entire rock on which we stood was composed of Lithostrotion. As we moved on, many crinoid sections were found. A single brachiopod valve was embedded in the rock and in another area there was a mass of solitary corals which some disaster had overwhelmed and brought together. The most striking find was a large section of a coil of a fossil followed shortly thereafter by the depression of the entire fossil clearly outlined in the rock. We were told it was a Nautiloid.

On the limestone below the kiln were many potholes. These are thought to be where trees grew in Carboniferous times. The holes are partly filled with fireclay. Farther east there were many marks of tree roots showing rows of pits which ran round them diagonally. Trees in this period were giant clubmosses and horsetails.

At this time the earth's crust was not stable, and East Lothian shows many signs of volcanic activity. On the shore we looked at some dykes which cut through the various strata in a NE-SW direction. We noticed the mineral veins and cavities associated with the dykes, and looked for pieces of country rock which had been caught up in the igneous intrusion. Another sign of earth movement was a series of brittle fractures which show where a fault had failed to materialize.

The tide being out we could also look in the rock pools and see some of the living relations of fossils such as a colony of bryozoans on a frond of seaweed. The colony makes a light coloured mat over the seaweed and only when we looked at it through a lens could the tiny individual homes of this animal be seen.

Altogether a fascinating outing.

Betty Mitchelhill

Aberlady Bay, 12 August

When we gathered by the car park by the footbridge at 1030 hrs the tide was well out, and the burn quite low, with consequent wide areas of exposed mudflat. So initially we walked back along the footpath by the main road towards Aberlady village as most of the bird life appeared to be along the channel. Our sharp-eyed leader, Bill Clunie, soon picked out Black-tailed Godwit, Whimbrel and a couple of Greenshank which were viewed telescopically by most of the party of twenty-six. Scanning through the other waders spaced out over the mud we had our first view of a summer-plumaged Grey Plover, a most impressive sight with the white crown and shoulders contrasting vividly with its black bib and waistcoat.

Then back to the bridge and out towards the sand dunes by way of the main path. As we passed, the Marl Loch held only Moorhen and Mallard, while overhead Goldfinch twittered on their way to feed on the masses of thistles in a nearby field. Just beyond the Loch attention was

taken by two Sedge Warblers which were perched openly on a bush by the path, then a Reed Bunting presented itself for general viewing.

At this point it became apparent that the botanical interest of the site had prevailed over the ornithological for a sizeable proportion of the party. The gap between the two groups expanded with time until contact was lost completely, and was only restored at the end of the outing.

So the bird group carried on to the dunes, seeing little on the way, and headed along the beach to Gullane Point where we settled down to picnic. As we sat there, Gannets were plunging quite close in, and farther out large rafts of Eiders and a few smaller groups of Common Scoters rode the waves. From time to time, Sandwich Terns passed by, and as we left the rocks, two small waders, identified as Sanderlings, appeared briefly.

The walk back through the dune slacks to the saltings and tide line was again pretty scarce of bird life but all enjoyed the sight of an abundance of flowers of Grass of Parnassus about our feet. The tide, a high one, was almost fully in as we got to the edge of the saltings. Wader flocks were plentiful by now and we spotted more Sanderling, about a dozen; Dunlin; another Whimbrel among the Curlews, which afforded a good opportunity to compare the size difference; and a few Golden Plovers. But the sight which most pleased the eye was of that mass of Grey Plovers, mostly still in breeding plumage, in excellent light conditions. One of those impressions that remain in the mind long after the day's list has been forgotten.

Back at the car park, birders and flower enthusiasts met up once more. The botanists reported that their main finds had been the afore-mentioned Grass of Parnassus (*Parnassia palustris*), Strawberry Clover (*Trifolium fragiferum*), Fleabane (*Pulicaria dysenterica*), Hound's-tongue (*Cynoglossum officinale*), and Marsh Pennywort (*Hydrocotyle vulgaris*) in flower.

With the tide fully in, mudflat had been transformed into a wide expanse of water, and as we left the outing was appropriately brought to an end with the 'tchew-tew-tew' call of a Greenshank passing over.

Jim Stewart

Rumbling Bridge Circuit, 19 August

A party of sixteen followed a circuit, somewhat shortened in view of the very hot weather, on Rights of Way between Pool of Muckhart and the Vicar's Bridge over the Devon. The way led through a variety of grassland, field boundary, woodland and waterside habitats.

Few birds were seen or heard, but fluvio-glacial features of the landscape were observed, and the botanists in the party found a sufficient range of species to take their attention for over five hours.

Munro Dunn

Addendum Interest was aroused near the start of the walk when we passed a farm where Shetland ponies were being bred, and a wonderfully aggressive little stallion was desperate to get at his harem.

Later a particularly interesting area near an old mill had Lawsons Cypress (*Chamaecyparis lawsonii*) and Leyland Cypress (*X Cupressocyparis leylandii*) growing side by side for comparison. Nearby, a wet shady wall revealed various ferns including Brittle Bladder Fern (*Cystopteris fragilis*) and some tiny snails with turret-like shells. On the wet floor was a curious jelly-like substance which was eventually identified as a species of *Nostoc*, a Blue-green Alga, or Cyanobacteria. *Nostocs* are basically filamentous, but can be aggregated into what the books describe as "mucilaginous masses".

Blue-green Algae are among the oldest of living things, having been around for at least three thousand million years. They are very simple (the cells have no nuclei, though they do have chlorophyll and so can photosynthesize) but are extremely widespread and are capable of surviving extremes of heat, cold, or pollution which could destroy most other living organisms.

At the end of the walk some members of the party went down Rumbling Bridge Gorge to admire the bridge. There are really two bridges, the later above the earlier, forming a second tier above the gorge. Its a good thing you can not see the drop from the road!

J Muscott

Gardylloo Sail, 30 August

A full complement of twelve assembled at dawn, well 0645 to be precise, at the Edinburgh-Dock for an early sailing aboard 'Gardylloo' on Wednesday 30th August. This was a day later than originally planned, due to maintenance work on the lock gates at the entrance to Leith Docks. However, the change was fortunate as we enjoyed the spectacle of a low rising sun highlighting Arthur's Seat and many other well-known city landmarks as our ship cast off and was manoeuvred precisely through the docks into the open Firth. A day earlier and we would have been peering through heavy drizzle to see anything.

Having heard reports of hundreds of skuas being spotted at Hound Point over the previous few weeks, all eyes were soon straining to pick out our first. It didn't take long, and after a short discussion and reference to the bird books, the first sighting was identified as a Long-tailed Skua. As we progressed, other individuals were spotted fairly regularly, and over the trip the count of skuas was 14 Arctic, 8 Great, 4 Long-tailed and 4 Pomarine. Highlights, which had even the most experienced birders gasping, were the two occasions on which the Pomarine Skua flew alongside at no more than 10 metres distance. Both were adult birds and showed the spoon feathered tails to perfection. A Long-tailed Skua came equally close and was also admired.

No trip on the Forth at this time of year is without expectation of seeing Shearwaters, and again we had a real field-day. Forty-six of the Manx species and 8 Sooty Shearwaters were spotted, some in flight, some sitting on the water, and others floating so close to the ship's track that they were obliged to take off and so presented us with superb close viewing. It was highly instructive to see the difference in size between Sooty and Manx as they flew close together.

Exciting as they were to the keen birdwatcher, Skuas and Shearwaters do not represent the bulk of bird life on a trip like this. Gannets of multifarious plumages fascinated. Guillemots, in flocks and often in pairs, probably parent and offspring, prompted our attention with their voices, which, strangely enough for such small birds, could be easily heard over the ship's rumblings. Some counting of species on the outward journey gave figures of over 800 Gannets, 600 Guillemots, 350 Kittiwakes, and then there were Razorbills, Puffins, Fulmars, Sandwich and 'comic' Terns. The only land birds noted were 9 Swallows flying northwards and a Wheatear apparently heading for the Isle of May as we sailed back.

As in earlier years our party appreciated the interest shown by the Master of the vessel, and the meals supplied during the voyage.

And to cap it all, as we made our way slowly through the dock at the end of the day, sharp-eyed Bill Clunie picked out from among hundreds of birds roosting on a shed roof, a mature Glaucous Gull.

Jim Stewart

Dunkeld Circuit, 9 September

The Larches Walk is the shortest of eight walks recently established around Dunkeld, Bimam and Inver. Pressure from visitors prompted local landowners and the District Council to upgrade existing paths, instal colour-coded route signs, and even build foot-bridges and a railway underpass. The system of walks was formally opened in 1994. The Larches was named after the Parent Larch, a huge tree from the Tyrol planted beside the Cathedral, and its hybrid progeny which provided the original seed for extensive plantings of Larch in this country. The 3-mile circular walk is almost entirely within the grounds of Dunkeld House Hotel.

We were joined and out-numbered by 27 members and guides from the Hillside Ramblers, a walking club formed this year by the local society for the visually impaired, and were shown how senses other than sight could be used to enjoy nature.

After half a mile following the main drive into the hotel, the path climbs through very dark woods. An old boat has been used as a plant-tub for ferns. The path briefly follows the All-Terrain Vehicle course, marked by deep ruts and mud, before crossing a drive that leads to Polney Loch and arriving at the viewpoint of Kings Seat. A short detour leads to St Colme's Well, surrounded

by ferns. The main path then returns to Dunkeld via an amphitheatre encircled by tall cypresses, again meets the ATV course, and finally follows the course of the Tay along the crest of a high wooded bank lined with massive conifers of different species. This ends at the Parent Larch, an ancient Yew and the Cathedral.

After a hot dry summer, a week of rain had revived the countryside. Some maples were already red to show that autumn had arrived. The first real flush of autumn fungi confirmed the change of season, and compensated for the scarcity of flowers and birds. Orpine (*Sedum telephium*) and Spiked Sedge (*Carex spicata*) were found, but the deep shade cast by the massive trees discouraged all but mosses and ferns. Oak Fern (*Gymnocarpium dryopteris*) Brittle Bladder Fern (*Cystopteris fragilis*), and Hard Shield Fern (*Polystichum aculeatum*) all flourished around St Colme's Well, where some Jays scolded us unseen.

Like the trees, some fungi were hefty. One Beefsteak Fungus (*Fistulina hepatica*) weighed around two pounds, and a couple of clumps of Giant Polypore (*Meripilus giganteus*) spread over several square feet all told.

Arriving back at the car park, the rain, which had held off till then, finally resumed the deluge of the previous few days.

David Adamson

Laggan Hill, Crieff, 16 September

Eleven members gathered in the Taylor Park on an unexpectedly glorious September morning. Christine Campbell led a circular walk along the River Turret and the River Eam, up through arable fields to Sir David Baird's monument (for lunch in the undergrowth) before returning to Crieff through mixed woodland, past Samson's Stone and over Laggan Hill, though not without a few stops to admire the distant Highland hills.

The path alongside the River Turret and the River Earn is popularly called Lady Mary's Walk. It was created in 1815 by Sir Patrick Murray of Ochtertyre and it was understandably a favourite walk of his daughter, Lady Mary. The path is lined by a row of mature Beech trees with some Lime, Larch, Oak and Scots Pine. Particular note was made of the abundance of acorns, while two magnificent Spanish Chestnut trees demanded attention. The stretch along the rivers provided most of the bird interest, with observations of over twenty Goosanders, two Dippers, two Grey Wagtails, a Grey Heron and a mixed flock of Coal and Great tits. Yellowhammer and Jay song were heard.

Despite a seven mile walk, the fungal interest became the focus of the day and a comprehensive list was compiled, reflecting the diversity of landscapes visited: *Boletus edulis* (Penny Bun), *Boletus chrysenteron* (Red-cracking Bolete), *Boletus/Leccinum scabrum* (Birch Bolete), *Boletus erythropus*, *Suillus grevillei* (Larch Bolete), *Russula atropurpurea* (Black and Purple Russula), *Lactarius tabidus*, *Lactarius rufus* (Rufous Milk-cap), *Amanita citrina*, *Cystoderma amianthinum*, *Oudemansiella mucida* (Porcelain Fungus), *Collybia dryophila*, *Collybia peronata* (Wood Woolly-foot), *Hygrophoropsis aurantiaca* (False Chanterelle), *Mycena galericulata*, *Nolanea staurospora*, *Paxillus involutus* (Brown Roll-rim), *Coprinus disseminatus* (Fairies Bonnets), *Lycoperdon pyriforme* (Puff-ball), *Phallus impudicus* (Stinkhorn), *Cantharellus cibarius* (Chanterelle), *Fistulina hepatica* (Poor Man's Beefsteak), *Laetiporus sulphureus* (Chicken of the Woods), *Meripilus giganteus*, *Piptoporus betulinus* (Birch Polypore), *Ganoderma* sp., *Aleuria aurantica* (Orange Peel Fungus). The edible fungi were hungrily gathered!

Botanical interest was more scant, but flowering Orpine (*Sedum telephium*) was noted and abundant sloes admired. A thick carpet of Bugle (*Ajuga reptans*) flanked the path up Laggan Hill.

Many thanks to Christine and to all who turned out to make this a most enjoyable day.

Anna Christal

Harlaw, 23 September

An enthusiastic group met at Harlaw car park for this foray led by Mike Richardson. The intention was to foray at Harlaw Reservoir in the morning, at the beech avenue near Threipmuir after lunch and look for grassland species on our way back to the car park. Harlaw Reservoir is fringed with pines but there are areas of birch, and other broad-leaved trees too. The summer and early autumn had been so dry, with hardly a fungus in sight, that we were unprepared for the profusion with which we were blessed. We scarcely managed to complete a circuit of Harlaw Reservoir and did not reach Threipmuir. Never had we seen so many Penny Buns (*Boletus edulis*) and forayers went home with enough to make many meals. There were other pored fungi too, including *Boletus erythropus*, a good edible species in spite of its lurid colouring of chestnut brown cap, stipe with red dots on a yellow ground, all turning intensely blue immediately on cutting. We identified *Boletus chrysenteron* by cutting the cap to see the dark red line just below the cap cuticle and *Leccinum scabrum* (Brown Birch Bolete) by its soft-textured brown cap and lack of any colour change on cutting. *Russula* and *Lactarius* species had been absent all season, but they, too, abounded. Many *Russulas* are difficult to identify with certainty in the field, but we were able to be sure of a number of the *Lactarius* species by their very distinctive characteristics. The coconut toffee smell of *Lactarius glyciosmus* is unmistakeable and so is the intensely acrid taste of the milk of the beech species *L. blennius* with its greenish-grey zoned cap. The cap of the red-brown *L. rufus*, a conifer species, has an umbo and its milk is mild at first and later very acrid, while *L. quietus*, the Oak Milk-cap, has a dingy reddish-brown zoned cap and an oily smell. Another for the gourmets was *L. deliciosus* with its pitted stipe and orange milk and flesh, which later turns green. Large two-toned *Hebelomas* under Willow looked as if they were *H. mesophaeum* but were identified after microscopic checking as *H. crustuliniforme* (Poison Pie), which has a paler margin to its cap but is not normally two-toned.

After the foray, we went back to the Water of Leith Centre to display our finds and have them identified by Mike Richardson.

Mary Clarkson

Doune Ponds and Lanrick Castle Grounds, 30 September

Doune Ponds Reserve. The reserve has been developed on the site of an old sand and gravel quarry which closed in the mid-70s. While the quarry was in operation a large area was covered by a huge settling pond. Most of this has been filled in by pumping silt from the old gravel washing plant and large parts are now totally colonized by birch and willow. On higher ground around the site some oaks have established themselves and an area of Scots Pine, Larch and Beech has been planted to screen the site and provide timber. Otherwise the area is largely undisturbed and provides a good habitat for fungi.

Our leader for the morning was Ian Munro, a local man who has been studying the fungi of the area for some years now. He brought along his supporters in the form of two Stirling D C rangers who knew the area well and a local family with a nine year old fungus enthusiast named Jamie.

Ian's main interest is *Ascomycetes* (the spore shooters). So he was keen for us to find the more uncommon ones which grow on the reserve. In this we were not too successful. We did find Earth Fan (*Thelephora terrestris*) and a selection of Puff Balls but unfortunately there was no sign of the pink tongues of *Tremiscus helvelloides* one of the reserve's special species which grows among the grass. In an area under deciduous trees where there were signs of animal scrapes, Jamie dug up 'truffles'. They were tiny and no one was prepared to venture a positive identification.

We had a very enjoyable tour of the area and were shown a variety of sites (though not that for Chanterelles!). There was a good variety of species of *Basidiomycetes* (the spore droppers). The variation in shape and colour attracted even those of us who are not fungus fanatics. Under the trees there were bright red "balls" of Fly Agaric (*Amanita muscaria*), the bun shapes of Birch Boletes, both the Brown (*Leccinum scabrum*) and the Orange (*Leccinum versipelle*). Also under Birch we had the pinkish *Russula betularum* and the brownish green *Russula aeruginea*. There were bright yellow/orange Larch Boletes (*Suillus grevillei*) and lovely

yellow clusters of *Pholiota alnicola* attached to the base of Alder. And in the leaf litter we saw *Clitocybe odora*.

We could have spent longer wandering in the woods, but our local colleagues were going home for lunch so we made our way back to the car park. Jamie set off with his basket full of specimens and the NATS settled down on the grass for an interesting and informative 'lunch'. We have to thank Eunice for both helping to identify the morning's haul and for giving us a 'teach-in' of some of the basic do's and don'ts of fungus foraging. This was particularly appreciated by those of us who are interested but not experienced in the art. To record some of the main points:

when collecting fungi always take the whole of the fruit body i.e. dig out the bottoms
do not hold by the stipe as fungi are easily damaged; hold in the palm of the hand
do not just look at the shape and colour, but feel the texture e.g. is the cap tough or fragile, does the stipe snap easily ?

smell it, the smell is often distinctive; we experienced some interesting smells -
aniseed from *Clitocybe odora*, radish from *Mycena pura*, coconut from *Lactarius glyciosmus*

for experienced collectors only, taste it; although relatively few fungi are really poisonous, some produce alarming symptoms when eaten - for example, the Common Inkcap (*Coprinus atramentarius*) has been given to alcoholics to produce nausea and palpitations when they imbibe, as a cure for their addiction.

Lyn Blades

Lanrick Castle After our picnic lunch during which time Eunice Smith kindly identified the morning's fungus collection, we moved on west to Lanrick Castle on the banks of the River Teith, Lanrick originally belonged to the Haldanes of Perthshire but it was confiscated for the family's part in the '45 rebellion. It was then bought by the MacGregors and for a time was known as Clan Gregor Castle. In 1840, the new owner William Jardine of Jardine and Mathiesons, merchants, founder of Hong Kong and the original 'Taipan', extended and rebuilt much of the house. It is not known when the Jardine family left the house, but it is now a ruin.

We were to look at the trees, but the opportunity was taken also to continue looking for fungi. Many fine trees planted in the early eighteenth century still stand. These include magnificent Douglas Firs (*Pseudotsuga menziesii*), Norway and Sitka Spruces (*Picea abies* & *P. sitchensis*) Western Hemlock (*Tsuga heterophylla*) and Noble Fir (*Abies nobilis*). Ornamental Cypress (*Chamaecyparis lawsoniana*) and Western Red Cedar (*Thuja plicata*) were added at a later date, planted close to the house beside what was the front lawn. Giant Sequoia (*Sequoiadendron giganteum*) and Monkey-puzzle or Chile Pine (*Araucaria araucana*) went into the park.

Native Oak (*Quercus robur*) Beech (*Fagus sylvatica*) and Yew (*Taxus baccata*) all grow well here and they were all laden with fruit. A venerable Spanish Chestnut (*Castanea sativa*), possibly the oldest introduction, was host to two seedling Hemlocks, a Beefsteak Fungus (*Fistulina hepatica*) and a Sulphur Polypore (*Laetiporus sulphureus*). At this stage of the afternoon, rain came on heavily so we curtailed our walk. We had by then found several species of Boletus and a Porcelain Fungus (*Oudemansiella mucida*) decorating a rotting Beech trunk. Thanks to the kindly insistence of the members present I went home happily with a beautiful Cep (*Boletus edulis*) which Scott and I enjoyed for supper.

Mary Robertson

Presmennan Wood, 14 October

Twenty-three of us gathered at the car park for a fungal foray where much was expected. Elizabeth Farquharson, the leader, considered this an excellent wood for fungi and the conditions were highly favourable for a rewarding day. The dank and foggy gloom of the day before had dispersed, the sun came through and the air was mild; a really superb autumn day.

Expectations as regards fungi were soon realised. *Lepiota rhacodes* (Shaggy Parasol) were plentiful and in good condition exciting the experienced and novices alike with their beautiful form. All through the woods, the common species like *Armilleria gallica* (Honey Fungus), *Hygrophoropsis aurantiaca* (False Chanterelle), *Hypholoma fasciculare* (Sulphur Tuft), *Laccaria laccata* (The Deceiver), *Paxillus involutus* (Brown Roll-rim) and *Collybia butyracea* (Greasy Tough-shank) were in super-abundance. Collectors found they had to be discriminating if their collecting baskets were not to be quickly overfilled. Some had to learn that pure white boletes were decaying fungi covered with a slime unpleasant to the touch, and definitely not worth gathering!

Progress up the high path was slow as Elizabeth talked herself hoarse explaining the characteristics of the fungi presented to her; as well as some of the background techniques, like the iodine on starch (amyloid) reaction for distinguishing spore-types. By the time we reached the picnic spot at the view-point, some people thought it was time for lunch but the leader was implacable, and food was denied until we reached the low grassy area by the dam at the eastern end of the lake. The wait was well worthwhile. The situation was delightful. Warm in the sunshine, with the sun glistening on the water and reflecting in brilliant shafts from the waves created by a trio of bickering Mute Swans, our sandwiches never tasted better. As we sat Tortoiseshell Butterflies played carelessly, and on the warm metal fence unusual ladybirds ran aimlessly; orange in colour with a black letter M on the thorax they were identified by Ena Gillespie as *Aphidecta oblitterata*, the Larch Ladybird.

The return was along the low path near the lake when again the re-invigorated collectors found much to attract their attention. The pace slowed and the party gradually attenuated as those who had other engagements or felt they had had enough mind-boggling information for one day walked on more quickly towards the car park. The rear of the party eventually reached there shortly before 4.30 and the keenest then made their way to the Water of Leith building on Lanark Road to review the day's finds. Mary Clarkson, ever thoughtful, produced tea bags, coffee and milk, and biscuits; the refreshments were very welcome as time was now rushing toward 6 pm.

The display of finds was large, set out according to spore colours. The black-spored, deliquescing *Coprinus atramentarius* (Common Ink-cap) was displayed at its various stages; then dark-spored *Hypholoma capnoides* and *H marginatum* with the rustier *Gymnopilus penetrans* and the duller-spored *Hebeloma mesophaem*. The *Inocybe* and *Cortinarius* fungi could not be taken down to species level without closer microscopic examination. Occupying the pink spore spots (which if properly identified goes a long way towards determining the species) were *Clitopilus prunulus* (The Miller) with cap feeling like suede leather and flour-mill smell, *Macrocyttidia cucumis* (Cucumber-smelling, with a cap edge notably redder than the centre, and tough hard stem, growing on hard roads, paths etc) and *Pluteus cervinus* (on wood, free white gills).

The number among the white-spored species was of course much larger. Among the *Armillaria* were not only the common *gallica*, but the much rarer *borealis* which grows on the trunks of living trees. The beautifully coloured *Laccaria amethystea* stood out. Adding to the total of *Collybia* species were *dryophila* and *confluens* with the nearly related *fuscopurpurea* which has a mild taste. The aniseed-smelling *Clitocybes fragrans* and the green *odora* were present in substantial numbers as was *Tricholoma saponaceum* var *squamosum* (Soap-scented *Tricholoma*), and *Clitocybe nebularis*. *Cantharellula cyathiformis* (The Goblet) and *Tricholomopsis rutilans* (Plums and Custard) were represented along with *Tephrocybe rancida*. *Amanita* species *A. muscaria*, *A. rubescens*, *A. citrina* and *A. virosa* were on the table along with the very white *Lyophyllum connatum*. *Lepista nuda*, the Wood Blewit, was easily identified. *Lactarius* species - *quietus* throughout the oak woods, *blennius* among the beech trees - were straightforward, but *pyrogalus* had one of our number spitting gustily to rid herself of the milk's burning sensation. *L. chrysorrheus* was identified from the rapid transition of its milk from white to yellow when exposed to the air. There were a large number of *Russulas* mainly *ochroleuca* (they were very bright and there was discussion about the possibility of *claroflava*, but all of them seemed to be greying with age on the stipe); but also among the yellow varieties, the geranium-scented *fellea*. *R. mairei* and *R. emetica*, brilliant white and red, were widespread among the beech and conifers respectively. *R. fragilis*, pink/red capped, was identified from its sweet smell and its toothed gills and the very common *R. atropurpurea* (Black-purple *Russula*) from its cap colour as was the white *R. delica*. *R.*

nigricans' flesh turned red then black and the greyish *R. parazurea* completed the list of *Russulas*. The *Boletes* were mostly well past their best, and unidentifiable, but *B. badius* (Bay Bolete), blueing to the touch, was common and *B. chrysenteron* could be identified from the red line beneath the cap. Much less widespread was *B. erythropus*, with its tell-tale red pores.

On the day, Margaret Nisbet was undisputed queen of the 'tinies'. When glimpsed through the trees during the day, it was generally with head deep in a thicket, only the rear end protruding. At the end of the day, she took over identification from Elizabeth, who had been ably supported by Mary Clarkson, to inform the assembled group about the small, mostly non-gilled, fungi. *Cantharellus cornucopioides* (Horn of Plenty) was an interesting find; *Xylaria hypoxylon* (Candle-snuff Fungus) *Exidia glandulosa* (Witches' Butter) and *Aleuria aurantia* (Orange-peel Fungus) were striking, if more common. The Jew's Ear, *Auricularia auriculae-judae* was well expanded by the recent rain. Two *Calocera*'s were shown: *viscosa*, which is fairly common, and *pallidospathulata* a southern species which has been spreading into Scotland. Next the small white stalks of *Typhula erythropus* were passed round and viewed admiringly with magnifying glasses. Two *Clavullina* or *Clavulinopsis* were removed for microscopic identification and it was noted that Coral Spot, *Nectria cinnabarina* had been found. A revelation for many was *Collybia cookei*, minute, growing on the remains of *Lepiota rhacodes*. The polypores included *Coriolus versicolor* and *Piptoporus betulinus*; and *Sterium hirsutum* was presented in a variety of shapes and sizes.

This was a day that worked well on a number of levels. The fine weather and the expertise of the leader and her assistants were of course essential. The number and variety of the fungi was the other outstanding feature: the novices found plenty to whet their appetites for fungusing; the nearly competent found the range of types and conditions to test and extend their knowledge; while the experts as well as explaining the finds, had enough to take home for further examination. It was well after 6pm when the door was closed and the lights extinguished at the Lanark Road site and it was a mentally well satisfied group who made their way home then, even if their physical appetites were becoming distinctly unsatisfied.

Andrew Gilchrist

Vane Farm Reserve, 11 November

David Fairlamb, the warden, described for the benefit of the party the history of the Reserve, its present biological status, and prospective developments. Since it was acquired in 1967, the exclusion of sheep from the hill has allowed extensive woodland, mainly birch, and heather regeneration. Grass has replaced crops on the flat land by the Loch, and ponds have recently been created there. Some deciduous and coniferous woodlands will soon be removed, but the former will be replaced on more suitable sites. The count of species now amounts to 184 for birds, about 170 for fungi and over 200 for flowering plants.

In the morning, the party walked around the Nature Trail, seeing Great, Coal and Long-tailed Tits and Bullfinches. A range of fungal species, appropriate to birch and heather habitats were also noted. After lunch, most took advantage of the viewing room in the Centre, and the nearby hide to observe ducks and waders.

Twenty-one members attended.

Munro Dunn

Musselburgh Lagoons and Kilspindie, 9 December

Was this the twenty-first time or was it not ?

Twenty-five brave members attended the outing. There was much discussion as to whether this was the twenty-first anniversary of this regular feature of our winter programme - or should that be in 1996 ? Never mind - as always this was a most enjoyable day.

This writer has been leader of all 21(?) occasions, and frankly feels something of a fraud, for it is all too easy to lead such an event, compared with the great preparation some leaders have to make for some walks. There are always experts around on this event with 'scopes to cover shortcomings and mis-identifications of the leader. Yet it is the wildfowl and waders in their

thousands that really make the day. It is no wonder that, if you go to the lagoons on a winter's day, you are likely to find bird watchers who have come far, from Newcastle, Aberdeen or Glasgow perhaps, to enjoy the spectacle at Musselburgh and Aberlady.

So much to enjoy and this visit lived up to expectation. Mallard, Eider, and Goldeneye were at the mouth of the Esk, and only a hundred yards farther on by the sea wall we spotted good numbers of Teal and Wigeon and - a bonus - two drake Goosanders. Then came quickly an even greater bonus; four Shovelers driven on to the sea by the frost inland. It was not just the duck we watched; virtually all the common waders were observed at the river mouth on the incoming tide along with the five regular gull species.

As we walked further along by the sea wall we observed the deeper-feeding duck - Velvet Scoter, Long-tailed Duck and also Slavonian (several) and Great Crested Grebe along with a solitary Guillemot. Finally we returned to our cars - well satisfied and hungry.

We re-convened in the early afternoon at the front of Aberlady Church for our Kilspindie walk. This leader then had an even easier time - if that is possible - as the Aberlady Warden, Ian Thomson, took over control. Ian's first comment to us was that we were unlikely to see any geese as they had recently been coming into the roost only after dark. No sooner said than a thousand geese appeared overhead. They landed about a quarter of a mile away on the mud-flat whereupon Ian observed one Whitefront among the thousand - we took his word for it! As we watched the Pinkfeet, we witnessed a young somewhat (according to Ian) regular inexperienced Peregrine putting up the waders. He/she departed only to be followed later by a more experienced female who almost claimed a lazy Teal. We watched Shelduck and Ian showed us a group of Tree Sparrows, regular feeders on a bird table near the entrance to Kilspindie Golf Course.

So ten species of duck clearly seen on the day. We missed the pair of Gadwall reported at the mouth of the Esk that morning and also missed out on a Red-breasted Merganser. We had no time to visit Gullane Point to see the regular Common Scoter or to pop into Duddingston to add Pochard and Tufted Duck to our list - that would have made fifteen. What a great area for birds!

Charles Pountain

Kindrogan Field Centre

The Society has supported Kindrogan in the past and is keen to do so in the future. Members may wish to note some of the courses that are on offer this year.

	Date	Title	Tutor
Short Courses	17-19 May	Introducing Mosses	Gordon Rothero
	17-19 May	Spring Flowers	Jackie Muscott
	17-19 May	Spring Birds	Angus Hogg
	24-26 May	Bird Sounds	Ian Suttie
	23-26 July	Introduction to land Beetles	Shona Blake
	3-6 Aug	Lichens	Sandy O'Dare
	6-9 Aug	Ferns	Heather Mc Haffie
Week Courses	29 June-6 July	Mountain Flowers	Mike Scott
	13-20 July	Natural History of the Highlands	Centre Staff
	20-27 July	Sedges and Rushes	Clive Jermy
	10-17 Aug	Difficult Plant Groups	Alan Silverside
	24-31 Aug	Fungi	Alan Outen

The cost of the courses works out at about £40 per night for the shorter courses, and rather less per night for the week long courses Full details can be obtained from the Centre, address Enochdu, Blairgowrie, Perthshire, PH10 7PG. Telephone: 01250 881286

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In addition to books, the Society has various other items which can be borrowed by members for their private use, including LP records of Birdsong with accompanying booklet, and a recording of Grasshoppers. Needless to say, members will be responsible for the care of books or equipment on loan.

Telescope:	A Bushnell Spacemaster of 20X-40X magnification, in carrying case and a car window mount for in-car use. <i>Apply to Miss Molly Woolgar (Tel. 0131 667 2688).</i>
Microscopes:	Seven high -powered microscopes and three low-powered stereo microscopes. <i>Apply to Mrs Mary Clarkson (Tel. 0131 667 3815)</i>
ph Meter:	For measuring the alkalinity/acidity of soil or water. <i>Apply to Mrs Mary Clarkson (Tel. 0131 667 3815)</i>
Mammal Traps:	Twenty-four small mammal traps . <i>Apply to Mrs Elizabeth Farquharson (Tel. 0131 447 1994).</i>
Photographic Slides:	A comprehensive slide collection left to the Society by Miss Janet Raeburn. The subjects are mostly botanical. but also include birds, mammals, butterflies and Scottish scenery. They are kept with the Library.
Bawsinch Key:	The Bawsinch Nature Reserve at Duddingston is managed by the SWT, who allow the Society to hold a key allowing members access to the hide overlooking Duddingston Loch. <i>Apply to Mr Jim Stewart (Tel. 0131 447 4210).</i>
Computer:	<i>Held by Miss E M Blades</i>

John Muir's Writings

At the October 1995 indoor meeting, Graham White referred to the fact that John Muir had written a number of books about natural history and his travels which had never been out of print in the United States. His writing is clearly appreciated on the other side of the Atlantic, with just cause, for his style is well-suited to the task being clear, precise and yet imaginative. The following extract from 'Travels in Alaska' illustrates his fine style.

'The number of bergs given off varies somewhat with the weather and the tides, the average being about one every five or six minutes, counting only those that roar loud enough to make themselves heard at a distance of two to three miles. The very largest, however, may under favourable conditions be heard ten miles or even farther. When a large mass sinks from the upper fissured portion of the wall, there is first a keen, prolonged, thundering roar, which slowly subsides into a low muttering growl, followed by numerous small grating clashing sounds from the agitated bergs that dance in the waves about the newcomer as if in welcome; and these again are followed by the swash and roar of the waves that are raised and hurled up the beach against the moraines. But the largest and most beautiful of the bergs, instead of falling from the upper weathered portion of the wall, rise from the submerged portion with a still grander commotion, springing with tremendous voice and gestures nearly to the top of the wall, tons of water streaming like hair down their sides, plunging and rising again and again before they finally settle in perfect poise, free at last, after having formed part of the slow-crawling glacier for centuries.'

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Postscript

Is the spirit of poesy alive in the Society?

In 1974, when the Society planted a group of trees on Craiglockhart Hill, P.W.G.G(unn) recited the following poem he had written to celebrate the occasion.

Address to a tree

Little tree - I've planted thee
This spring of 'Seventy-four' -
And one day there will be a grove
(When we have planted more!)

Some future day thy boughs will stir
With many a bright bird's wing
Some day from out thy spreading boughs
We'll hear the chaffinch sing.

Some day when you are fully grown -
Cooing to show his love
To ev'ry one that passes by
Will come the bright ring-dove.

Some day beneath thy leafy boughs
True lovers here may meet
And like the cushies tell their love -
And vow that life is sweet.

As sweet it is to all the folk
Of our societee
Who love the birds, the tree, the flowers -
God bless thee, little tree.

P. W. G. G.

In 1996, the Society will be adding to the grove of trees already on Craiglockhart Hill. Is any gifted member going to take up the challenge to celebrate that occasion in like fashion?



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NOTES TO CONTRIBUTORS

Contributors are requested to submit their contributions, whenever possible, on 3.5" computer diskettes, as this greatly helps the Editor and reduces the amount of re-typing. Discussion with the Editor concerning the best format for submissions may be helpful. If this is not possible, submissions may be typewritten (on A4 paper with double spacing and clear margins, please), or in manuscript, provided the writing is clear and legible. If in doubt consult the Editor. Any member who considers he/she has material which would further the aims of the Society or enliven the Journal, in the form of either text or drawing (black and white only, unfortunately), is encouraged to submit it. The dead-line for submission is important; material submitted after the end of the year without prior notification is unlikely to be able to be included.

In referring to plants, insects and fungi, the English name should normally be followed by the scientific name. For birds, this is not usually necessary. Locations should be identified clearly by place-name or OS map reference. The contributor's name should always be given in full.

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Front Cover - The ENHS Logo

Observant members - which of course all 'Nats' members are - will have spotted that the new logo, designed by the late Jim Nicholson, which adorns the smart sweatshirts everyone is now wearing, has replaced the former tree on the front of the journal.

The design is topped with a representation of the Arthur's Seat skyline, and tailed with the waters of the Firth of Forth. Consultations have shown that what you think Arthur's Seat looks like depends on where you normally view it from, so it is impossible to satisfy everyone.

Between hill and sea is one of Edinburgh's rarities - the Sticky Catchfly. This must count as perhaps the first heraldic Sticky Catchfly rampant!

Now, who would like to suggest a club motto to go with the logo? Suggestions to me!

Munro Dunn

EDINBURGH NATURAL HISTORY SOCIETY - 1996

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Editorial

This journal celebrates the activities of the Society for yet another year, a year that has been notable for the high quality of the lectures and outings. The programmes arranged by the Excursion Committee and the organizers of the winter evening talks have been of a very high standard. This is no doubt at least partly responsible for our being able this year to produce a 'bumper' journal, with substantially more contributions than before. As a result, I have felt it necessary to 'squeeze' the articles in order to put a limit on the increased number of pages, but I hope it remains easily legible and that members will find plenty of interesting material in it. The ENHS logo is used on the front cover, making, I believe, an attractive publication.

When Jean and I undertook to take over the editing of the journal from John Winham (whose untimely death in September robbed the Society of one of its most able members), it was on the stipulation that we would do it for three years. The job requires a considerable commitment of time and mental effort, particularly if, as in our case, the intention was to produce camera-ready copy. Modern Desk Top Publishing makes it possible for a small society like ours to prepare publications cheaply (provided of course you have a sufficiently powerful Personal Computer). Preparation of the journal can then be a fascinating and rewarding activity (ideally involving not just the editors but other willing members of the society too) for those long winter evenings when life out-of-doors is dead or moribund. I have certainly found it so, especially as it has been a way of coming to grips with Latin names, and generally raising, from an initially very low base, my understanding of natural history. But I feel that with the publication of this third journal we have done our stint and it is now in the Society's best interest to hand over to a successor.

We are very pleased indeed that Sandra Stewart has agreed to take over, though for a time, while she is 'getting up to speed' and thinking about how best to do the job, I shall be available to help. We wish her well in her undertaking.

Andrew Gilchrist

Dick Hunter

Dick celebrated his ninetieth birthday last April. He is a man of many parts! His birthday warranted spreads in the local newspaper and the Ramblers journal as well as local parties organized by the Glasgow Natural History Society and the Ramblers.



The following is quoted, with permission, from an article in The Rambler written by Jim Grant:

"He taught himself botany and became an accepted authority on mosses and fungi, recognizing species by their common and Latin names; despite his age he has an astronomical memory for such names.

In the autumn, Dick is to be found berry-picking on Drumclog Moor and Dougalston Estate or wherever brambles are to be found. He makes excellent jam.

In recent years he has taken to painting flowering plants and bird scenes and shows considerable talent for this."

As a senior member of the Society he has always been popular on excursions, when he is keen to share his extensive knowledge of natural history with the party. One of his birthdays coincided with an outing which he led for the Society. It was to his beloved Mugdock. A cake was cut and bottles of wine were opened to toast his eightieth birthday. And it is typical of Dick that in July of this year, he assisted Ian McCallum in leading the Society's outing to Loch Lubnaig. Members were delighted to note that, though perhaps not as vigorous as of yore, his interest in the outdoors is undiminished.

Members of the Society send Dick their very best wishes, and trust that they will continue to see him at Society functions for a long time yet.

Obituary: John Winham

John Winham who died in September at the relatively early age of 63, had been a member of the Natural History Society since 1972, when he settled in Edinburgh.

His love of the outdoors dated from his teenage years with a group of young climbers doing their best to kill themselves on the Lakeland hills (or failing that, on their motor-bikes). Subsequently, he spent two years in the Antarctic with the British Antarctic Survey, where he made a number of joint first ascents, and found himself in charge of a dog-team. If some of his accounts are to be believed this mode of transport was even more exciting than motor-cycling, and almost as lethal.

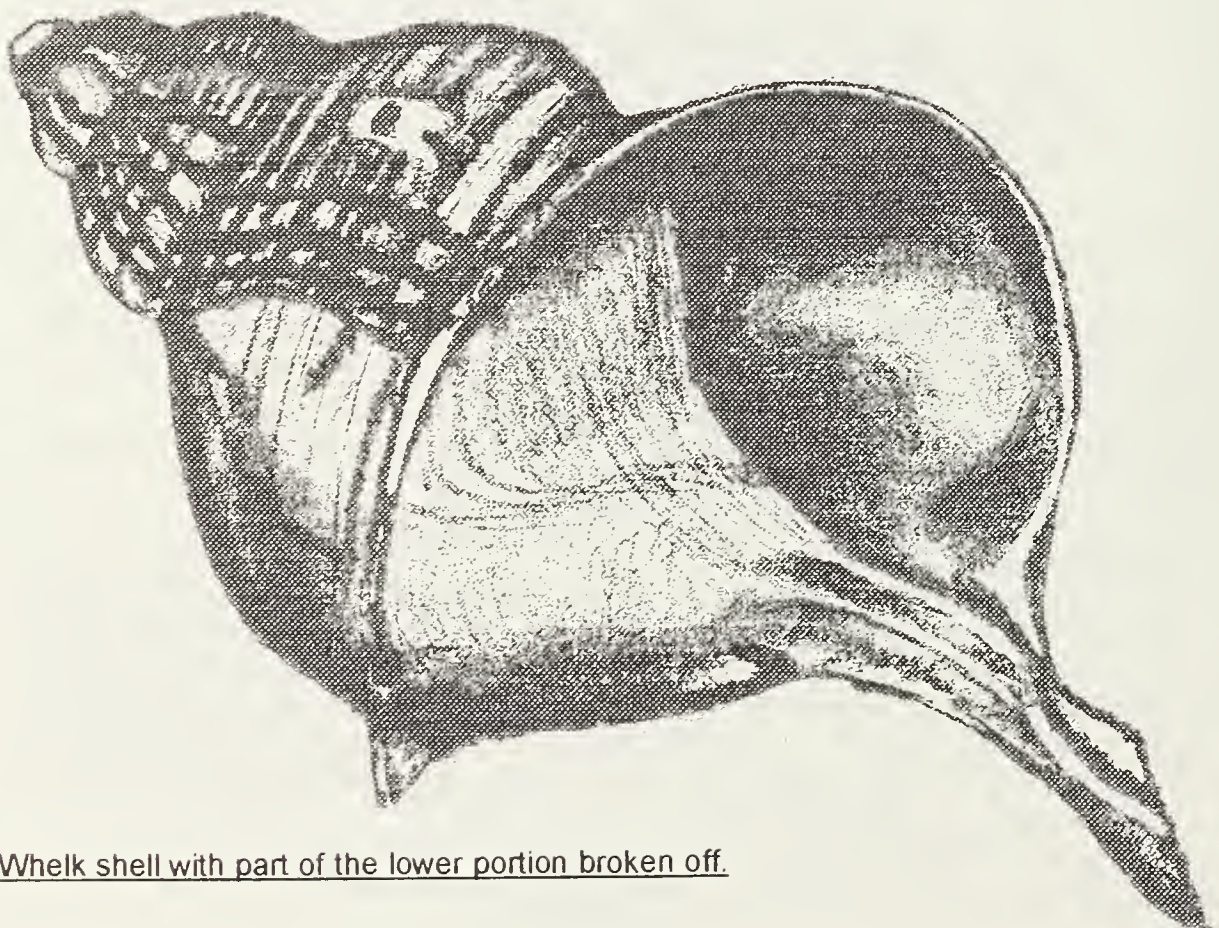
It must be impossible to spend time in the Antarctic without taking an interest in natural history, but it was not until the seventies that John got seriously involved with botany. His greatest love was probably for the alpine flora, pursuit of which involved his mountaineering, as well as his botanical skills and his competitive instincts. He eventually succeeded in tracking down all the rare alpine plants as well as climbing the Munros.

Over the years he has taken the "Nats" up a number of Scottish mountains in search of alpine plants, and more recently introduced them to the study of lichens, his latest botanical enthusiasm. He was editor of the Journal from 1991-94, and Vice-President from 1992-94, when to his horror, he found himself in charge at the AGM.

By this time he was having breathing difficulties and only just managed to attend the indoor meetings at the beginning of 1996. He was an inspiration to a number of botanists, including myself, and I shall greatly miss his companionship and enthusiasm, not to mention his lugubrious brand of humour, which always came to the fore as some kind of disaster set in.

His other interests were many, including diving, sailing, fishing, archaeology and silver-smithing. It seems fitting to conclude with one of the drawings he completed during the winter of 1981-2 when he went to art classes.

J Muscott
 304759



Whelk shell with part of the lower portion broken off.

Some notes on Edinburgh Natural History Societies

In 1969 an article by George Carse, then President of the *Edinburgh Natural History Society*, appeared in the annual **News-Letter** in recognition of the centenary of the present society. The article detailed some of the history of this Society which, at its foundation, was known as *The Edinburgh Naturalists' Field Club*. In recognition of the weight of interest in microscopic work the name was later changed to *Edinburgh Field Naturalists and Microscopical Society*. The account stated that there was a merger with *The Scottish Natural History Society* in 1921 when the present name of *The Edinburgh Natural History Society* was adopted.

The history of the last hundred years or so is a reminder of the fact that we are carrying on an important interest. However a brief reference to *The Edinburgh Natural History Society* in 1782 in a book about medical students from America was very recently brought to my attention. This has led to a search through an assortment of eighteenth and nineteenth century documents and has resulted in this chronicle of interest in the study of Natural History in Edinburgh in an earlier period.

A collection of anatomical and natural history items existed in the **College** (from 1685 often termed '**University**') of **Edinburgh** as early as 1688. There had been a **College of Surgeons** from 1504 but, despite many attempts at recognition, at that time the physicians did not have such an institution. Sir Robert Sibbald (1641-1722) and several of his friends were working quietly towards greater recognition of the status of physicians. Sibbald and his friend Dr Andrew Balfour (1630-94) were interested in the medical use of herbs and acquired the use of a piece of ground belonging to Holyrood House where eventually a collection of "eight or nine hundred plants" laid the foundation of the **Botanical Garden of Edinburgh**. Balfour and Sibbald received financial support from many of the physicians and even, despite some distrust, from several surgeons in Edinburgh. Students of medicine were encouraged to send seeds and plants from their travels abroad. In 1676 a room was set aside in the **College of Edinburgh** for the storage of seeds and books. In 1695 Sutherland, the man who looked after the garden, was appointed the first Professor of Botany. In addition to his responsibilities to the **College of Edinburgh**, he applied to give instruction to the apprentices and pupils in the newly elevated **Royal College of Surgeons**. In the meanwhile **The College of Physicians of Edinburgh** at long last came into being on 29th November 1681.

In 1697 Sibbald presented to the University a collection of Natural History specimens (mainly from Scotland) which constituted a valuable addition to the collection donated earlier by Dr Balfour. These collections were once a source of great pride to the University of Edinburgh and, as the Town Council wanted the Museum to be kept in order, they appointed a first Professor of Anatomy in 1705. Unfortunately the College did not appoint a Professor of Natural History until the year 1770 and Ramsay, the first Professor of Natural History seems neither to have lectured on the subject nor to have taken good care of the specimens. Dr John Walker, who succeeded him in 1779, immediately started to accumulate a collection for the use of his class. (At this time Dr Hope, the Professor of Botany, is also reputed to have awarded a gold medal each year for the best herbarium formed by a student.)

In the eighteenth century young men of ability who expressed interest in natural history were often directed towards a study of medicine. In 1782 James Edward Smith, a medical student at Edinburgh University, wrote to his mother about founding, with a few friends, "a society for the prosecution of natural history": this appears to have evolved from the regular meetings of a group of friends in their rooms in order to share their discoveries in botany and mineralogy. (Some six years later this same J.E. Smith was instrumental in the launch of the Linnaean Society.) The society was most commonly referred to as *The (Edinburgh) Natural History Society* although its 'proper' title was the *Society for the investigation of Natural History* or *Societas Naturae Studiosorum Edinburgena* in academic circles. It appears to have been unusual among student societies in its longevity (30 years): this long span can perhaps be attributed to the strictness of its rules and the clearly expressed requirement of regular active involvement by all its members. By 1802 two hundred and forty-nine members had been recorded. Smith's contribution to the society was his decisiveness "it was he who galvanised the ditherers, it was he who converted the desultory chat into organised debate".

At the second meeting of the Society, Dr Walker, the Professor of Natural History, offered help in terms of books, specimens and a meeting place (5 April 1782): he attended the meetings regularly and joined in the discussions. Dr Walker was made an Honorary Member

and, in 1784, was appointed Honorary President. (The Professors of Botany and Chemistry were made Honorary Members.) The meetings were held once a week during the period between November and May. Membership of the Society had to be applied for and was subject to approval by strictly-defined ballot. The entrance fee was three guineas with an annual fee of half a guinea - at a time when a student's class fee for a whole year was £3 5s. There was probably an element of promoting elitism - Smith was pleased to record an application for membership from Lord Dacre, son to the Earl of Selkirk and also from the Earls of Glasgow and Ancrum. After eight weeks of membership each member was required to present a dissertation and engage in debate afterwards on that topic: each dissertation was transcribed. The topics covered a wide range of interests and included snakes, beavers, fossils, lichens, meteors, earthquakes and many other topics including the migration of birds.

Smith left at the end of his studies in 1783 and it appears that, at that time, the Society diversified its interests beyond the bounds of natural history and, in 1788, the newer *Chemical Society* was merged with the *Edinburgh Natural History Society* - indeed many men had been members of both societies. The high number of student members from America appears to have ceased in 1793 (probably because of the outbreak of war in France). Many of the members of the Society were to become distinguished in their fields of later study including Peter Roget (from London) who became an entomologist but is probably known better to the general public as the author of the famous *Thesaurus*.

However ill-winds were to buffet the Society - the funds were lost when the treasurer was declared insolvent. Moreover a threat arose to the broad base of the Society when the interests of chemistry began to dominate - Allen describes chemistry as "a cuckoo in the nest". However new members arrived including, in 1802, Leonard Horner (later to become the father-in-law of the geologist Lyell) and a major recruiting drive brought in the Superintendent of the Botanic Garden. A return to the earlier wider range of interests was helped by the foundation (for the second time) of a *Chemical Society*.

In 1808 the Society had to weather another 'cauld blast' when the new *Wernerian Natural History Society of Edinburgh* (named after the geologist Werner from Freiburg) was formed and the Secretary of *The Edinburgh Natural History Society*, Dr Patrick Neill (1776-1851) who was a keen naturalist, left to become secretary of the new organisation. He attempted, without success, to encourage the societies to merge. Patrick Neill was also one of the founders and, for forty years, Secretary of the *Caledonian Horticultural Society*. Four years later *The Edinburgh Natural History Society* was absorbed by *The Royal Physical Society*.

The Edinburgh Natural History Society was very successful in achieving active involvement of its members and in encouraging a broad base of interests together with expectation of detailed study. This forum for independent inquiry and the interchange of ideas must have been invaluable to the young men in their studies at the University. The society maintained links with former members and also with those in the university and elsewhere who had associated professional and academic interests. There was a carefully structured constitution which included an intriguing system of fines - a fascinating story in itself! The transcribed dissertations (presented at the weekly meetings) constitute a rich legacy and are preserved in the special collections of the library of the **University of Edinburgh**.

But what of that other part of the legacy - the specimens? When *The Royal Society of Edinburgh* (proposed by Dr Walker) received its Royal Charter in 1783 it was laid down that all specimens of Natural History should be placed under the custody of the University. In addition, many complete collections were bought for the University or were donated to it, sometimes by former students. In 1820 a new building was constructed on the west side of the University quadrangle to house the 'Museum'. The public were admitted on payment of a fee of half-a-crown (12½p) - reduced to one shilling (5p) in 1834 - and in 1852 the collection was stated to be "second only to that of the British Museum". Grant (1884) reports the misconceptions and disappointments (vol 1, pp. 357, 374, 377-8) which rankled when this collection was transferred to form part of what is now the National Collection in the Royal Museum of Scotland and writes that "in course of time the official Director of the Museum succeeded in playing cuckoo to the Professor of Natural history": the Director took over the Professor's position as Keeper of the Natural History collections and eventually even the free use of the specimens for class teaching was denied.

Although this is believed to be a reliable record the imminent publication date of the Journal has precluded the cross-checking of references from contemporary sources to my satisfaction. The subjects merit more detailed attention.

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Eunice Smith

Biodiversity - the Threshold of a New Era of Nature Conservation

You may have missed it but 1995 was European Nature Conservation Year. In planning and co-ordinating the programme of events for the year, Scottish Natural Heritage promoted it as a celebration of the first such year in 1970, as well as it being a foundation of awareness and action for the future. In this respect, working somewhere behind the scenes, a Government steering group was already developing a plan of action for what could well be regarded as the next era of nature conservation in Great Britain.

In 25 years nature conservation has come a long way. Even the term, which in 1970 was barely understood, is now part of our everyday language. To a Scottish farmer in the late 1960's conservation was hay-making, to provide fodder for over-wintering stock. To the activist of the day, preservation of nature was the objective, as if it could be protected in a museum glass case. Through the 70's and 80's there was to develop a heated and often emotional debate between the various viewpoints about the future of the countryside, its management and the place of wildlife in it. Gradually, however, in a drip-feed of awareness and understanding, we have not only become accustomed to the word conservation, and what it implies, but many of us are involved in it, in a practical way, and nature conservation is now accepted, largely, as a matter of good practice by farmer and activist alike.

Thus, from often entrenched views, through dialogue, advice and incentives, barriers have been broken down. The importance of our natural heritage is more understood and the associated needs of management and enhancement have become increasingly integrated within land use practices.

However, just as we reached the point of being quite comfortable with the term "conservation", and all that it means, we are suddenly introduced to the need to manage and enhance the "biological diversity" of the United Kingdom, as described in the UK Action Plan on Biodiversity, published by the government in 1994. Will it now take another 25 years for us to understand fully what it means? Hopefully not since the lessons of the last 25 years must surely help us. Without doubt action on biodiversity is here to stay and we must get used to what it means for us in Scotland.

We also have to understand, and accept, that we all have a role to play in this new era, both as individuals and as a community. That biological diversity encompasses everything, from single celled algae to trees, from insects to mammals, from snails to birds, and that they are all important, whether rare or common, is what management and enhancement of biodiversity is all about. This is nature conservation in the real sense but unlike the past when often it has meant looking after special sites of importance, biodiversity implies the need to look after the natural environment and its individual species as a whole. Rare species are still very important but for a healthy environment we need to look after all species.

If a starting point for this new era is needed then the story starts at the Earth Summit held in Rio in 1992. The Summit was promoted with considerable media hype. There was great anticipation and even excitement about the gathering of the world's leaders to debate the environment. Issues such as global warming, acid rain and ozone holes were already the subject of public debate and so in fact the lead into Rio had started many years before. The background was well established and the problems that non-sustainable living styles were

creating in the world's environment were facts known to us all. It was also because of the nature of the problems that the outcomes of Rio, compared with other summits, will influence policy and action in the UK more than any other United Nations type gathering in recent years. For example, what do you recall of the "Food for All" Summit - and that was held in 1996!

At Rio, amongst the conventions and declarations on climate change, sustainable forestry and the environmental agenda for the next century - known as "Agenda 21", - was the convention on biodiversity. To cut a long story short, the government signed the convention at the Summit and ratified it in 1994. Its readiness to do so is perhaps summed up by one quote from "Agenda 21":-

"The current decline in biodiversity is largely the result of human activity and represents a serious threat to human development".

The threat must be interpreted in terms of such things as the quality of our lives, the food we eat, and medicines. These are the necessities of life and biodiversity is an integral part of it although we have taken it too much for granted.

On his return from Rio the Prime Minister drew up an eight point plan to address the issues arising from the Summit and amongst these was the commitment to publish a plan for action on biodiversity. It was this that was published in 1994, and following on was the setting up of a Steering Group to advise it on how to address the needs of biodiversity management in the UK. The resulting report was published in December 1995, significantly at the end of the European Nature Conservation Year.

Since then the government has moved fast. It has accepted the guidance that the Steering Group gave it and nationally, in each constituent country, England, Wales, Scotland and Northern Ireland, biodiversity action plans are being drawn up, public awareness campaigns are being planned, and nationally a bid has been submitted to the Millennium Commission for funds to set up a network of biological recording centres across the UK.

All this requires committees, sub-committees, issue groups, inter-country networking and UK co-ordination. If nothing else this reflects commitment and determination to convert policy into action, and it is involving a considerable partnership of interests which can only speed up the action. For example, the Scottish Office Biodiversity Group involves representatives from seventeen organizations, ranging from the statutory bodies to representatives of fishing and agriculture, from crofters to industry, and from the universities to the Edinburgh Botanic Garden and Edinburgh Zoo.

None of this existed in 1970 but what does it mean at the local level? Biological diversity is not so much about the designated sites but of stimulating action on a broad species front. To address this a new mechanism of "Local Biodiversity Action Plans" (LBAPs) is being experimented with. This will reflect the need to manage and enhance both the rare and the common species at the local level, stimulating the responsibility of all in the process - whether a farmer with hundreds of acres or someone with a garden (even, according to the Steering Group, a window box matters); and promoting the active stewardship of our natural environment.

Biodiversity is not about nature conservation *per se*. As already explained, it is about the quality of life, the genetic basis of what we eat, our culture and our natural surroundings. This is the motivation for action on biodiversity, and locally this needs interpretation and action.

In West Lothian, the new Unitary Council has accepted the responsibility to develop a Local Biodiversity Action Plan, in a partnership which includes the National Farmers Union, Scottish Natural Heritage, RSPB and SWT. There are undoubtedly problems ahead in development and implementation of such a plan since there is no model to follow. However the pioneering nature of the initiative should assist others who take up the challenge in the future. Biodiversity means that we have to change some of our ideas about nature conservation. However, if we can reflect on the lessons of the past twenty-five years, then progress will be that much quicker. **Watch this space!**

John Sheldon

(Dr John C Sheldon was formerly ecologist for Lothian Regional Council, but is now the environment team leader for West Lothian Council. He was a member of the Government's Steering Group on Biodiversity and represents Local Authorities on the Scottish Biodiversity Group.)

National Parks of Poland

The territory of Poland extends from the Baltic southwards over the North European Plain to the Tatra mountains. Eighteen areas of the country have been designated as National Parks, and within these areas special reserves are set aside to protect the endemic flora and fauna. Some parks existed in the 1920's, but legal status was not granted to many of them until the 1950's. They are predominantly forested areas intersected by streams and small rivers, and dotted with lakes.

Five parks are recognized as having special scientific interest and are listed among the World Biosphere Reserves. The most renowned of these, the Bialowieza Park, is situated on the eastern border and extends into Belarus. It encloses the best preserved virgin forest in the country, populated by 26 species of trees, especially Oak and Hornbeam. On the higher ground, rising to 600 ft, are mixed conifers of Spruce and Pine, with Lime and Maple on the more fertile ground, and Alder and Ash on the flood plain. There is a rich variety of fauna in the forest, ranging from 62 species of mammals to 228 species of birds. Most notable is the only surviving herd of European Bison. These animals became extinct in the wild in 1919, were re-introduced in 1929 when they were bred in reserves, and presently they range freely in the forest. They total 230 animals in the Polish section, and 200 in the White Russian section. Some rare species of Owls and Woodpeckers are found, as are migratory residents*, including the Snowy Owl, Golden Eagle and Black and White Storks. Tourism is strictly regulated in these reserves; all walks are accompanied by guides and motorized transport is not permitted.

Activities in the other parks are not so controlled. Leisure facilities are available, tourism trails are well-marked, and farming is allowed in some areas. The largest, the Kampinos Park, near Warsaw, is bounded on the north by the Vistula River. The aim of the authorities here is to protect one of the best preserved inland dunes in Europe, and to provide Warsaw with purer air by restoring the forest. On the dry dunes, the original Oak and Hornbeam trees have been largely replaced by Pine. In the peat bogs, the picturesque clumps of alder, rising above the spring floodwater, give their name *Kepa* or *cluster* to the park. Areas of meadow are partially protected to provide suitable grassland for rare birds, or are given over to private farming, though this practice is being gradually discouraged. Elk, the symbolic animal of the park, were re-introduced in 1951, and now number about 100 animals. Beaver, re-introduced in 1980, inhabit the banks of the streams and the river Vistula. Among the big game are Deer and Wild Boar; also found are Weasel, Ermine, Martens and Polecats. The forest is famous for its 121 protected species of birds including Crane, the rare Polish Eagle, Heron and migrating Osprey, Black and Red Kite, geese and cormorants.

In the north, situated along the southernmost border of the last glaciation zone, are the Wigierski Park near the Latvian border, and the Drawienski Park to the west near Szczecin (Stettin). These parks were established in 1989-90. The landscape is seamed with narrow lakes, streams and rivers, providing ideal conditions for canoeing. The climate in the Wigierski Park is severe, being affected by cold masses of air from the Arctic. Forests cover most of the area and consist of Spruce, Pine and Hazel. Peat communities of Birch, Liverwort, Sundew, Crowberry and Saxifrage only occur in this region of the country. Mammalian species include a well established population of Beaver, some Elk, Deer and Boar, and rarely, Lynx and Wolf. In the lakes, Swan, Teal, Grebe, Coot and Garganey are common. Among the fish are found Perch, Pike, and Bream. The milder climate of the Drawienski Park has allowed the growth of deciduous forests in the fertile valley of the Drawa River. These areas are covered with Oak and the characteristic Pomeranian Beech, some of which are 300-400 years old.

The Swietokrzyski Park in the southern mountainous region has peaks rising to 2000ft. It was created to protect the Fir, Beech, and Pine forests which cover over 90% of the territory. Within its boundary are several historic buildings, with churches dating back to the 12th-14th centuries, and a museum of ancient metallurgy, recalling the iron smelting industry which was centred in this region in the first and second centuries.

On a note for the prospective tourist, accommodation in the parks is available in the form of camp sites, hostels and some hotels. It is relatively cheap for west Europeans. A knowledge of a Slav language is almost indispensable as we have few words in common. One word that sticks in my mind is *roslinna*, meaning plants, for its association with the village near Edinburgh. German is the second language in western Poland, and English is now taught in schools. The greatest threat to the traveller in the summer months are mosquitoes, which are of a particularly voracious variety.

Margaret Perry

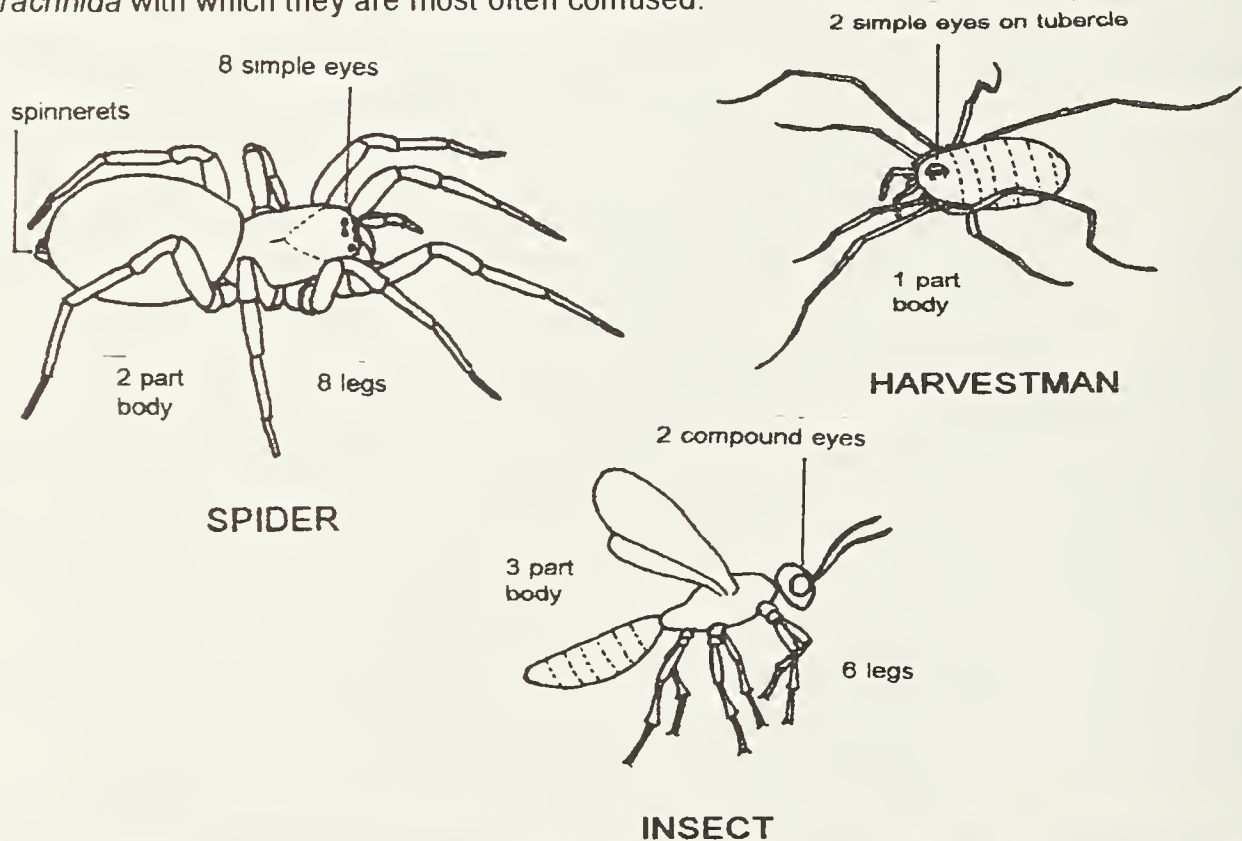
*Presumably birds which move, seasonally, from one part of the country to another. Editor

About Spiders

Many people, including a number of those interested in natural history, are apprehensive to a degree when they see a spider. It matters not whether it is a real spider or some other long-legged animal - the immediate thought is 'creepy-crawly', leading to a feeling of anxiety or even terror. As someone with a fairly long-developed interest in spiders, I find it difficult to understand why this should be so, and offer the following notes on the order *Araneae* to give a few basic facts about spiders and hopefully kindle a similar interest in others.

Spiders are members of the class *Arachnida*, invertebrates with four pairs of legs, no wings or antennae. They further differ from insects in the following ways. Spiders have a two part body, the front end (*cephalothorax*) of which is equivalent to the insect's head and thorax fused together, and is protected by hard cuticle above and below. The second part is the abdomen which is relatively soft and elastic. Spiders have simple eyes, generally eight but some genera have only six, whereas insects have two compound eyes. And spiders are unique in having spinnerets at the posterior end of the abdomen. These they use for extruding silk of different types, such as web frame silk, sticky silk, dragline silk, and egg-sac silk. Silk is also used as an aid in the dispersal of many species, especially the small, black, so-called 'Money spiders'. Perched on top of a wall or post, on a day of rising warm air, the spider will raise its abdomen and extrude a continuous strand of silk until the pull on the silk is sufficient to lift it off. Then away it 'balloons' to new ground.

The diagrams indicate some of the main differences of external structure between spiders and insects, and between spiders and harvestmen, the other members of the *Arachnida* with which they are most often confused.



Young spiders develop directly from the egg with no larval stages or metamorphosis as is common with insects. Those clusters of tiny spiderlings you find in early summer have hatched out from a silk-encased egg-sac, produced during the previous autumn and over-wintered in a sheltered spot, the mother in this case likely to have been the very common 'garden spider', *Araneus diadematus*. She almost certainly would not have survived the winter.

Within a few days, the siblings disperse, each to find a niche where it can construct its own small snare to catch prey. Success in obtaining food means growth and since spiders have a hard exo-skeleton, they have to moult a number of times before they are fully grown. Moulting requires the hard outer skin to split and the spider emerges in a temporary soft cuticle which allows it to grow a bit before hardening up. The exuvia which is left at this stage, especially when the spider is nearly fully grown, can frequently be found in odd corners and is often thought to be the remains of a dead spider.

Assuming freedom from predation by their many enemies, other spiders, birds, beetles, and so on, maturity will eventually be reached. In the case of orb web builders like the 'garden spider' the snare will have grown with its own maker so that by autumn we see those beautifully constructed orbs glistening with dew. Maturity for males means leaving home to go hunting for a mate, and when he finds one, carefully making his presence known by tweaking her web to let her know he is not a fly ready to be devoured. If she accepts his advances, mating will take place and in most cases he will retreat safely, probably to go and look for another mate.

Soon afterwards, the female will produce one or more batches of eggs, wrap them securely in a cocoon of silk, and so the process starts again.

Not all spiders produce orb webs, though. Different families have different types of web snare, and indeed some families make no web at all. So as well as the two-dimensional orb web, there are three dimensional 'hammock' webs composed of a horizontal sheet with a scaffold-like superstructure, both types designed to catch flying insects. Then there are the common cobwebs of cellars and outbuildings, and irregular mesh webs often seen on the rough bark of some trees, in these cases meant to catch creeping prey.

Of those that make no web at all, the most noticeable are 'wolf' spiders and black and white striped 'zebra' spiders. The former are seen to their best on fine days in early summer running about on the ground layer, the females more than likely carrying an egg-sac attached to their spinners. 'Zebra' spiders, on the other hand, are usually found on walls or fences on hot sunny days, using their very well developed eyesight to stalk and jump on unsuspecting prey. That is when dragline silk comes in very useful.

Jim Stewart

June in Shetland

It was four rather queasy Nats members who disembarked at Lerwick after a decidedly rough crossing from the Scottish mainland. They were setting out on a visit to Mainland, Yell, Unst and Fetlar.

The sighting that excited us most was of nine Red-necked Phalarope (*Phalaropus lobatus*) on Loch Funzie; later, there were two more at Sandness on Fetlar. What tiny birds they are to spend the rest of the year out in the oceans! The Snowy Owls have disappeared. Plenty of Bonxies glared at us from their nesting territories. Also Whimbrel watched us uneasily.

The Unst rain and a strong north wind made walking across the deserted moorland to the cliffs at Hermaness very difficult; we chose to be prudent and turned back. Again there were Bonxies guarding their nests - Shetland has nearly half the world population of Bonxies. Compensating for the disappointment over Hermaness, the Keen of Hamer was a delightful surprise. It is a very exposed hillside of serpentine rock - a real lunar landscape - with tiny plants growing among the stones: Moss Campion (*Silene acaulis*), Norwegian Sandwort (*Arenaria norvegica*), Northern Rockcress (*Arabis petrea*)[†], Mountain Everlasting (*Antennaria dioica*), Kidney Vetch (*Anthyllis vulneraria*), Thrift (*Armeria maritima*) and, best of all, Frog Orchid (*Coeloglossum viride*). Also, this is the only site in the world of Edmonson's Chickweed (*Cerastium nigrescens*).

On Mainland we came across several Painted Lady Butterflies - surely far north for them, as they do not over-winter in Britain. A Shetland Wren was noted, nesting in the stonework at Jarlshof.

A sea-fog rolled in at Sumburgh Head so only a few Puffins were visible at the top of the cliffs. The clamour gave some idea of the numbers of sea birds lower down out of sight. We had no luck with Otters. A film crew working at the pier at Mid Yell had fed them fish, and by the time we arrived, the show was over.

Snipe, Twite and Wheatears in fields of Buttercups and Red Campion; grassy hill-tops with Thrift, Spring Squill (*Scilla verna*), and small Heath Spotted Orchids (*Dactylorhiza maculata*); above, in the air, Guillemots, Razorbills, Kittiwakes and Tysties; on the small lochans, Red-throated Divers; peat lairs on the moorlands, and everywhere on every horizon, the sight of the sea - these are the things that remind us most forcefully of Shetland.

Connie Stewart

[†] There have been some major changes in scientific names in recent years, which have now filtered through to the most recent edition of the Collins handbook "Flowers of Britain and Northern Europe". The Botanical Editor's policy is to try to ensure up-to-date scientific names are used. JM

Old name: [†]*Cardaminopsis petrea*.

An Ancient Holly Hedge at Hopetoun

Hopetoun has a remarkable old Holly hedge along the edge of the plateau above the North Deer Park. Most of the time it is unnoticed, being hidden behind a Yew hedge at its eastern end and by a Portugal Laurel and Rhododendron to the west. Today, Sea Walk path follows the escarpment running above and parallel to the shore, corresponding closely to an early feature, the 'Terrace Walk', mentioned in 1704/5 in the time of Sir William Bruce.

'The Wilderness' was a semi-cultivated area with serpentine paths bordered by hedges, and sheltered glades provided with seats and ornamental trees, a pleasant place in which to walk at leisure. The Holly hedge would be planted to protect this area from northerly winds. Hopetoun records revealed great activity around 1704/5, with planting of 'almost unimaginable numbers of items' (*The Gardens of Hopetoun*, Hopetoun Research Studies, 1995, Chapter 1). Sir William Bruce's own garden supplied 450 hollies among many other plants. Hollies were supplied not only from Kinross but from Culross (1,800 hollies), Gogar and Colinton, while huge quantities of holly berries were being gathered, often with the gardener himself supervising the work (*The Gardens of Hopetoun*, pp 15). The seeds were then grown on in nursery beds and after five years growth, would be ready to plant out. All this took place before William Adam came to the scene.

Confirmation of the planting of Holly hedges at this time comes from Robert Hutchinson, Barnhill, Brodick, Arran in *Transactions of the Highland and Agricultural Society of Scotland*, where he wrote in 1892:

"The practice of planting hollies around Mansions and in pleasure grounds as hedges appears to have prevailed extensively in the beginning of the eighteenth century".

He goes on to give reasons:

"...they may be trained to a greater height than any other description and carry with them sufficient strength to resist the heaviest blasts of wind... and also to have greater immunity to attacks of insects".

It is disappointing not to find an entry for Hopetoun in this account entitled "*Old and Remarkable Hollies (Ilex aquifolium) in Scotland*", though at the time of his research the family was abroad and Hopetoun was unoccupied.

Something more positive comes from Joseph Sabine, Secretary to the Horticultural Society, London 1827, describing an autumn journey through parts of Scotland:

"Among the magnificent trees and evergreens which adorn the grounds on the banks of the Frith (*sic*) of Forth, at Hopetoun House, the seat of the Earl of Hopetoun, near Queensferry, the Hollies are not the least conspicuous. These were planted about, or previous to, 1740. Most of them have very fine trunks, the largest being fifty feet high with a clear trunk of twenty feet, and measuring at three feet from the ground, five feet eight inches in circumference. Several are of equal height, with trunks from ten to twenty feet long, and measuring, at the above distance from the ground, from four and a half to five feet round. Many of the Hollies are variegated but these are of smaller dimensions. Both the plain and variegated trees were originally planted as hedges and were kept clipped in the Dutch (i.e. formal) fashion until 1778, when the hedges were destroyed but the finest specimens of the trees being then preserved, they have grown to the sizes here stated."

Unfortunately, Joseph Sabine omits to say where this old and remarkable Holly hedge is situated at Hopetoun, but I think there can be little doubt that the present hedge consists of 'the finest specimens' which were preserved. All of them, sixty or so, show signs of having been trimmed as a formal hedge: some of them have grown in grotesque shapes as a consequence. Some trunks are small and some quite tall: some trees have fallen and the lateral branches have developed as trunks. Most of them are now hollow shells: many of them have dead and dying branches and crowns, but they are still remarkably vigorous for their age, producing berries abundantly. There are still a few variegated hollies among them. Could these be some of the "20 fine Guilded Holleys" supplied to the Earl of Hopetoun who noted that nine of them were not well headed and so lopped something off his payment of William Miller in 1709 (*Gardens of Hopetoun*, pp 11) ?

It is impossible to say exactly how old the hedge may be but I think we can be certain

that it dates from very early in the eighteenth century and ranks alongside the more famous ancient Holly hedges at Tynninghame and Colinton. It is well worth while taking a walk to see the hedge, especially in winter, when the hollies can be seen more easily as the deciduous trees behind them are bare of leaves.

Mary Robertson

Tree Planting on Craiglockhart Hill

*It was dank and chill As we heel'd them in,
The wee bit slips o' things, On bleak Craiglockhart Hill.
And left them to their fate.*

Anon

As a contribution to "Plant a Tree in '73", the Society funded the planting of about a hundred young trees on the lower slopes of Wester Craiglockhart Hill. Most of the trees were planted by Mr R.H.Watson, the City Forestry Officer and his staff, but the final twelve were planted by members of the Society on the evening of 20th March 1974 at an informal ceremony at which Mr P.W.G.Gunn, the Honorary President, recited a poem which he had composed to mark the occasion.

Mr Watson approached us again in 1995 to ask if we would undertake another planting 21 years after the previous one and it was agreed that this should take place on Saturday 9th March 1996. (We seem to be a year late each time!) Society members were to plant the trees, around 150 of them, container-grown and about 1ft high and including Scots Pine, Birch, Oak, Beech, Bird Cherry, Hazel, Hawthorn and Holly. There was a good turn out of members arrayed in gardening clothes and wellies and armed with spades and forks. To our surprise and pleasure, Colin Bell, who, as a boy of nine, had planted one of the trees in 1974 on behalf of the Junior Members of the Society, joined us along with his small daughter. Although rain had threatened early in the day, the sun shone and we spent a busy and happy morning planting our trees higher and higher up the slope. The trees planted in 1974 are well established; it remains to be seen if their 1996 counterparts will do as well after such a dry summer.

Mary Clarkson

Flora, Fauna and Fossils

A summer course with this title was run by St Andrew's University in mid-July. It was led by Dr Rosalind Garton, a local geologist, and included a variety of activities. There were sixteen course members.

After a get-together on Saturday evening, there was a Sunday morning walk along the Kinness Burn to see wild flowers and woodland birds, and an afternoon spent viewing historic parts of the town and University. There followed an evening walk in nearby Dura Den where we had hoped to see a lot of Pipistrelles and Daubenton's Bats coming in to roost. However, we were disappointed that only a few appeared after a long, chilly wait. Monday was spent in Tentsmuir Forest, a mixture of broad-leaved and coniferous trees, with wild flowers and butterflies. Seals were singing on the sandbanks offshore as we picnicked in the dunes.

An outing to Inchcolm Island from North Queensferry was on the programme for Tuesday. En route the geology of the Fife hills was described. There are quartz-dolerite caps of the Midland Valley Sill on the Lomonds, the Cleish Hills, Bishop Hill and Benarty. Inchcolm is one of the volcanic islands in the Forth Estuary and consists of teschenite, an alkali gabbro. As well as being the nesting site for gulls, Eider Duck and wading birds, it also has Scotland's best preserved mediaeval abbey - St Columba's - founded in 1123, which we were able to explore after the other visitors had vanished. The gull fledgelings were quite large and wandering around - so that on this occasion we did not have to contend with being dive-bombed by their parents!

Wednesday morning was the occasion for exploring the beach by Crail harbour.

Three impressive fossil tree trunks could be seen on the foreshore with sand ripples, all 360 million years old. Afterwards we enjoyed an art exhibition in Crail gallery, and an afternoon visit to the Sealife Centre in St Andrew's. Next day we walked from Dunkeld through native Oak and Birch woodland to the Scottish Wildlife Trust nature reserve at Loch of the Lowes. We saw a mother Osprey with two chicks, and various birds on the loch. The final day, Friday, included a stroll through woodland on the south bank of the River Tay near Balmerino. There were agates and garnets on the shore, along with a great variety of pebbles transported from elsewhere. We then looked at the ruins of Balmerino Abbey, which is 750 years old, with broad-leaved trees in the grounds.

Evening activities included a visit to the Byre Theatre, a piano trio, a folk-song evening and a dance demonstration by attendees at the Royal Scottish Country Dance Society Summer School. On the last evening, we dined with the course leader whose enthusiasm, friendliness and wide knowledge of the area had given us a most interesting and enjoyable week.

Joyce Cochrane

Note: Details of all external courses held at St Andrew's can be obtained directly from the University.

100 years of the *British Mycological Society*

1996 was the centenary year of the founding of the *British Mycological Society* - a society, for both professionals and amateurs worldwide, devoted to the study and interchange of knowledge about fungi. The opportunity was taken by some members of the ENHS who are also members of the BMS to participate in some of the events which were arranged to mark the occasion.

In 1896, one of the interests of the *Woolhope Naturalists' Field Club* combined with a similar interest by several members of the *Yorkshire Naturalists' Union* and led to the founding of the BMS. A century later, a spring foray, based on Hereford (the nearest large centre to Woolhope), aimed to survey the sites which had been forayed in those early days. At the commemorative dinner, a former trainer of members of the SAS brought us up-to-date with her explanation of the many and varied uses of fungi as an aid to survival. Much later, at midnight, a group of us gathered to view (thanks to a major eclipse of the moon) the passing comet complete with tail !

In early September, an autumn foray, based on Huddersfield, re-visited the sites which had been surveyed a century earlier by the Yorkshire enthusiasts. A dinner was held in the room in Selby where the society had been founded and some participants added to the sense of occasion by dressing in Edwardian clothes. We were later privileged to be able to inspect some of the original records in the Tolsen Museum in Huddersfield.

In late September the Halls of the Royal Horticultural Society in London housed an exhibition, "*Fungus 100*", devoted to the many and varied aspects of fungal interest. There was an impressive table display of fungi 'rooted' in compost kept moist by the hard foam-like material used by flower arrangers (Oasis). It was not possible to transport fungi collected in Edinburgh, but a hastily arranged visit to Windsor Great Park yielded some specimens for the display, including splendid clumps of *Lyophyllum decastes*, many specimens of *Amanita citrina* and a beautiful *A crocea* (now preserved in the herbarium at Kew).

An associated programme of lectures catered magnificently for the amateur and aroused the curiosity of the many young people who attended in parties from schools. It was a major and unique event and included demonstrations by such well-known figures as Antonio Carluccio: the opportunity was given to experience the enticing and beguiling smell and taste of truffles (including the black one). The display and demonstration of the making of paper from fungus organized by the Royal Botanic Garden, Edinburgh intrigued not only the visitors but also many of the exhibitors. Stefan Buczacki, a past vice-president of the BMS, chaired the question and answer session when "*Fungus 100*" hosted Gardeners' Forum on Classic FM radio.

At the event, we met an amateur mycologist from Russia who is interested in fungal finds in archaeological investigations and, through e-mail, we now link Edinburgh and Moscow about mutual interests. In addition to the feast of mycological interest, the week included yet another lunar eclipse !

Eunice Smith

'Wee, sleekit, cowrin', tim'rous beastie'

When an exciseman died in Dumfries in 1796 at the age of 37 Scotland and poetry lost a man who could express feelings about creatures and happenings in words which, to this day, engender tenderness and reflection.

In November 1785, while farming in Ayrshire, Robert Burns turned over the nest of a field mouse with his plough. His awareness of having intruded irrevocably on the life of a

*"poor, earth-born companion,
An' fellow mortal"*

made him ponder on the uncertainty of life for all living beings.

To our consternation, in 1996 his words took shape and form before our eyes when our large compost heap was being forked over and we realised that the nest of a Field Mouse had been exposed. Several naked young animals lay in the nest and an adult scurried around frantically trying to redeem the situation.

*"Thy wee bit housie, too, in ruin!
It's silly wa's the win's are strewin!
An' naething, now, to big a new ane,
O' foggage green!
An' bleak December's winds ensuin,
Baith snell an' keen!"*

It was obvious that the heap and nest were beyond repair and that the (presumed) mother was already putting a crisis plan into operation. She grabbed one of the youngsters and took it to a 'safe' place within a few feet and then after checking that the remainder of her young were still in the ruined nest she darted through the hedges to adjacent gardens. Each one of the youngsters was then carried to her choice of new refuge. We found that the first fugitive had also been reclaimed.

This happened in August so at least the 1996 mouse did not immediately have

*"To thole the Winter's sleety dribble,
An' cranreuch cauld!"*

Prompt action ensured that we have a photographic record of part of the event.

Eunice McA Smith

Further reference to the bicentenary of Robert Burns' death in 1796:-

*"I'm truly sorry Man's dominion
Has broken Nature's social union"*

Robert Burns, To a Mouse

How often do you find yourself saying "It's a long time since I saw one of those round here" ? Perhaps you go on to speculate about the likely responsible villain and range through blaming 'modern pesticides', 'global warming' and end up with the obvious choice of the 'government' (either the one of the day or that of 20 or more years ago - depending on your political persuasion).

For two consecutive years we had regular appearances of the Orange-tip butterfly (*Anthocharis cardamines*) in our garden. A stand of Garlic Mustard (*Allaria petiolata*) was jealously guarded so that it would be available for the female to lay her eggs so that the emerging caterpillar could feed on the leaves before the next metamorphosis into the pupal stage: (the other common host for this species is Lady's Smock (*Cardamine pratensis*)). However another member of the family, suffering from a rare bout of tidy-mindedness (and even rarer botanical identification), recognised a 'weed' - that signalled the end of a potential home for the Orange-tip for that, and perhaps many another, year!

'Weeds' are becoming rare plants in town gardens. Perhaps we should consider whether a place should be found for them before it's too late - too late not only for the plants but also for the creatures who depend on them. Crusades against the mismanagement of the hardwood tropical forests are worthy but cabbage patches in our own backyards may likewise need champions. Perhaps a campaign is needed so that at least one plant is left for *Pieris brassicae* before the Cabbage White butterfly becomes an endangered species!

Eunice McA. Smith

Kindrogan Weekend, 25-27 October

When a group of us from the Society went to Kindrogan some of us chose to look at birds, some at small(?) mammals, and one to paint.

Birds

Tutor: Nick Mutch

Calling the groups informally after the name of their course, I, as a Bird, was glad to be roosting cosily in my nest while sounds from next door indicated that the Small Mammal residing there was already scurrying off to inspect the mammal traps before breakfast.

After breakfast, the Birds gathered in the courtyard and took off in the mini-bus to look for flocks of Thrushes. We found a good mixture beyond Kirkmichael. Our next stop-over was at a hill-side on the Glen Shee road which we were told had a flock of Blackcock, and they were there just as predicted. We alighted near Mar Lodge and scanned the conifers in the hope of seeing Capercaillie. Looking the other way, I was trying to identify two strange birds flying across the river. They were very big, had long thin tails and necks and no wonder they looked like strange ducks, for they were indeed Capercaillie.

As we were feeling peckish, we had lunch in the mini-bus, due to less than dry weather. We had an afternoon walk up past the Linn of Quoich with dramatic amounts of water coming down. The moorland grasses were in spectacular shades of orange, contrasting with the dark pines. There were a few small birds, a pair of Ravens, and a lot of stags roaring in the distance. As we came back, we were surprised to find the path suddenly occupied by a large number of people. On closer inspection they were very like ourselves with waterproofs and binoculars. Further examination revealed that the Small Mammals had chosen the very same place to come searching for Deer.

As it had stopped raining, we all hopped out in the car park at the Cairnwell and dutifully, but with private reservations, scanned far away up the hillside for Ptarmigan. Earlier, we had hovered by the road to look at some Red Grouse, but the Cairnwell birds were better trained and one came to look at us as we were gazing into the distance, drawing our attention with the appropriate call. The late afternoon sun streamed across the high scree and illuminated some dark patches of heather. And, sitting on the heather, showing so distinctly, were bright white Ptarmigan! They were easily picked out with binoculars and very clear through the telescope.

On Sunday we migrated down to lower ground and landed at the Loch of the Lowes, Loch Cluny and Loch of Lintrathen. We saw a variety of ducks and gulls, flocks of Lapwing, Osprey nests, Greylag Geese, (and a Red Squirrel). With the changing of the hour, the short autumn day was soon drawing to a close. We finally winged our way to Drumore Loch where we were greeted by the first Whooper Swans of the winter. They are such beautiful, special birds, and were the highlight of the whole weekend.

Heather Mc Haffie

Small Mammals

Tutor: John Webster

It is doubtful if those who booked themselves on to the Small Mammals course realized what they had let themselves in for. It was clear at the outset, after dinner on Friday, that there was much to be done, for the blackboard showed a crowded time-table, starting immediately with learning about animal traps and then, in the pitch darkness guided by inadequate torches, setting the traps among the long sodden grass near the house.

Setting and emptying the traps first thing each morning, last thing at night, was one of the activities that those participating in the course will remember; particularly when it was also part of the training to handle the animals to determine their species and weigh them to find out their food benefit to predators. And then there was the excitement when a Wood Mouse leapt from the trappers hands and had to be pursued around the room - "wee, sleekit, cowrin', tim'rous beastie, O, what a panic's in thy breastie!", - the words seemed very appropriate.

We shall also remember being in close proximity to the things that animals leave around the countryside, their droppings (Rabbit, Mountain Hare, Grouse, Deer, Otter, Mink, Fox, Pine Marten, all to be recognized often from their smell) or their pellets (to be teased apart to find what Owls had been eating). To their credit, course members tackled these activities with fortitude and their recognition skills improved by leaps and bounds. The big regret of course was that Kindrogan is bereft of the Badger.

Then there were the expeditions - not the lazy drifting along with mini-bus nearby that

seemed to characterize the Birds, but hard driven walking to see our quarry, or at least the tell-tale signatures they had deposited in out-of-the-way places. There was the climb up the sticky peaty lower slopes of the Cairnwell in rain in search of Mountain Hares; the narrow slippery path, disintegrating as a result of all the rain, in Glen Quoich; the steep bank down to (and for some, into) the burn in spate where Otter and Mink droppings lurked together on top of a large boulder under a bridge; the pre-dawn start on Sunday in pursuit of Fallow Deer as a Roe Deer buck bellowed his presence up on the hillside; and finally the climb of the hill behind Kindrogan along paths reduced to muddy slithery tracks to see the effects of deer browsing on woodland trees and the droppings of Fox and Pine Marten along their well-marked trails. But it was pleasant in the end to stand on the top of the hill when the weather cleared for once and the countryside lay displayed in its glory below us.

It is greatly to the credit of John Webster that he had put so much into the preparation of this course. For some, it was undoubtedly hard going, partly at least because the weather was adverse. But I am sure everyone came away from Kindrogan feeling he or she had learned a great deal and that walks in the country will be enlivened as a result.

Andrew Gilchrist

A Winter Weekend at Caerlaverock, 1-4 March

Lucky for Some!

Friday the first of March was a fine sunny day as the cars set off from Edinburgh to travel to Caerlaverock. A stop was made at Lochmaben to view the loch, the birds, the castle and to have some lunch. A new hide put up by Scottish Natural Heritage gave grand views of Great Crested Grebe and Goosander. In the walk to the hide through varied woodland, Treecreepers were seen (not by everyone) and among a selection of tits were Willow and Long-tailed - it was a case of *Lucky for Some*.

The next stop was at the church at Ruthwell to admire the ancient cross, now housed within the church. Standing 18 feet high it is the most impressive Anglo-Saxon cross dating from the period when the Celtic church with its main centre at Iona was retreating in the face of the Roman church advancing northwards from Northumbria. It is thought to date from a time shortly after the Synod of Whitby (A.D. 664), when the supremacy of the Roman church in England was confirmed. The cross has very fine, detailed sculptures on the shaft depicting the life and passion of Christ. It was smashed by the presbyterians in 1642, but reassembled in the last century with a new cross-piece.

Thirteen of us arrived soon afterwards at Eastpark farm, and while some turned their hands to preparing a staggeringly large evening meal, a few of us ventured out to see Teal and Shoveler among the Whooper Swans and to watch a gloriously red sky as the sun set.

Saturday morning brought more sunshine, and the group spread out around the reserve to view the wildlife. As well as the very obvious geese, swans and ducks, some of the group were fortunate to find Spotted Redshank, Hen Harrier, Pintail, Scaup, and Bewick Swan while everyone had a good opportunity to see a Peregrine Falcon which sat on a fence post for an hour or two. Again it was a case of *Lucky for Some*.

Close by the reserve is Caerlaverock Castle, which most people decided to visit. Girt by a moat and earthen ramparts, it is built of red Dumfries-shire sandstone on an unusual triangular ground plan. The impression as the visitor approaches on a sunny day is striking, and the interest is enhanced by the charming inner facade with heraldic carvings. The present castle was built in the late thirteenth century and withstood a siege by Edward I in 1300. By then it was the principal seat of the Maxwell family. The inner facade, executed in the 17th century, is an early example of Scottish Renaissance style.

Then it was back to Eastpark for another excellent supper. Eric and Eileen reported our only sighting of a Barn Owl and Jean saw a Little Owl on a telegraph pole near the farm. *Lucky for them*.

Sunday was spent by the sea. Carsethorn was nearby, but the wind strength and direction were not propitious for finding the sea birds that had been hoped for. Rockcliffe was pleasant and, though ornithologically it too was disappointing, members enjoyed an afternoon walk to Kippford and back. Still in search of birds, a stop was made at the new RSPB Reserve at Mersehead, south of Kirkbean. Here Bamacle Geese were grazing and sixteen Pintail were seen on an inland stretch of water by *Those Lucky Enough* to espy them before they flew off.

Next day, members made their way back to Edinburgh by a variety of routes, though the majority went by way of Eskdalemuir and then enjoyed a walk by St Mary's Loch. For the two of us who chose the road up the Leithen Valley there was the sight of thirteen Blackcock on the hillside to be enjoyed - *Lucky for Us!*

Molly Woolgar

Supporting a Swan

The Wildfowl and Wetlands Trust has had a Goose and Swan Supporters Scheme for many years as a way of raising money. In 1974, I 'adopted' a male Barnacle Goose, Darvic Ring No AAH, ringed in 1973, and one of the Spitzbergen flock which winters almost exclusively on the Solway Firth.

There are three populations which remain more or less distinct throughout the year, the others breeding in Greenland and in the north of Siberia; and all winter in Western Europe and the British Isles. During spring migrations, the geese stop off on islands in the Helgeland archipelago off the Norwegian coast. This staging post is important as they need to fatten up to be in a suitable condition for breeding. Each year I was glad to know that 'AAH' had safely completed the amazing 2500 miles to Spitzbergen and back. Geese pair for life and 'AAH' was usually seen with his mate and goslings.

When finally there were no more sightings reported of 'my' Barnacle after 17 years, I decided to become a Swan Supporter. 'Linga', 'my' swan is a beautiful Whooper, and it was she whom I and the rest of the party were able to watch at Caerlaverock during our weekend there. She was ringed at Caerlaverock in 1986. She could be identified, not just from the ring number, but, like Whooper and Bewick Swans in general, from the black and yellow bill markings.

There are three distinct populations of Whooper Swan, two of which occur in Europe and one in Eastern Siberia. Whoopers breeding in Iceland, if they migrate, do so exclusively to the British Isles. The Scandinavian and Western Siberian populations winter in Western Europe and on the Black and Caspian Seas, while the Eastern Siberian birds winter in Japan, Korea and China. The breeding ground of the Whooper in Iceland covers a large area, mainly on boggy ground and beside shallow lakes. Cygnets normally stay with their parents throughout their first winter.

Swans normally pair for life, but for some reason, 'Linga' is now with mate number three, 'Stonker', having previously paired with 'Ling' (still reported) and with 'Sphagnum'.

Now I am looking forward to the next report from WWT, and to seeing again these lovely birds with their beautiful musical call.

Sheila Stuart

Kindrogan 1997

Following the success of the Society's Autumn weekend at Kindrogan, moves are afoot to repeat the experiment in 1997, with however the difference that the leaders of outings will be provided by members of the Society themselves - a sort of D I Y weekend. The likely date is the first weekend in November. As no Kindrogan tutors will be involved and the time chosen is just outwith the Centre's normal operating period, costs will be less than usual for Kindrogan. At the time of writing negotiations are being conducted by Heather Mc Haffie, from whom further details can be obtained.

Members may also be interested to know about some of the wide-ranging courses on offer by the Centre throughout the Spring, Summer and Autumn. Here is a selection, with dates and names of tutors:

Botany: Flowers of the east, 23-25 May (*David Bell*); Introducing Mosses, 30 May-1 June (*Gordon Rothero*); Mountain Flowers, 5-12 July (*Michael Scott*); Introducing Grasses, 26-29 July, (*Phil Lusby*); Fems, 6-9 September (*Heather McHaffie*).

Fungi: Fungi, 23-30 August (*Alan Outen*); Introduction to Fungi, 12-14 September (*Paul Nicol*).

Birds: Bird Sounds, 23-25 May (*Ian Suttie*); Spring Birds, 30 May-1 June (*Angus Hogg*); Summer Birds, 5-12 July (*Nick Mutch*); Autumn Birds, 18-25 & 24-26 October (*Nick Mutch*).

Insects: Terrestrial Bugs, 19-26 July (*Stephen Moran & Stephen Hewitt*); Moths, 9-16 August (*Barry Goater*).

NOTES ON NATURAL HISTORY 1996

Observations

MA Margaret Abel	JM Jackie Muscott	ES Eunice Smith
MC Mary Clarkson	EO'D Eleanor O'Donnell	CS Connie Stewart
DC Doris Crichton	CR Charles Rawcliffe	JS Jim Stewart
EF Elizabeth Farquharson	MR Mary Robertson	SS Sandra Stewart
DM Doris Mack	SR Scott Robertson	GS Graham Swift
	TW Hopetoun Ranger	
07/1/95	Male Red-breasted Merganser on the Water of Leith below Falshaw Bridge. (CR)	
13/1/95	Bittern at Bawsinch. (CR)	
07/4/95	New Zealand Flatworm at lime-kiln near Gladhouse, NT 292552. (CR)	
20/6/95	Gall, <i>Ascomyces aureus</i> , on Poplar at Bawsinch. (CR)	
06/7/95	Gall, <i>Macrodiplosis dryobia</i> , on Oak at Vogrie Counry Park. (CR)	
25/7/95	Red-eared Terrapin in Duddingston Loch. (CR)	
03/10/95	Black-necked Grebe on Duddingston Loch. (CR)	
27/12/95	Male Blackcap at Comely Bank Place, Edinburgh. (CR)	
24-30/12/95	Exceptionally cold weather, with -19.5°C at Glasgow and -12°C at Edinburgh on Thursday night, 28th Dec. It was -16°C at mid-day in Glasgow on 29th; -5°C in Inverness and -9°C in Edinburgh at the same time. There was freezing fog; in late afternoon one could see the frozen particles of moisture. (MR)	
29/12/95	Buzzard and Roe Deer seen at Banks approach, Hopetoun, NT 090790. (MR)	
02/1/96	For the fourth year running the same mock-orange bush less than twenty feet from a kitchen door in the Blackford Hill area was used as a perch by a male black-cap which came regularly to a bird-table even nearer the door. It was seen feeding at the bird-table at the same time as a blackbird and neither chased the other off. However, the visit of a second male blackcap did not last long! The blackcap started giving a bit of a song on 19th March and did so from time to time after that. (MC)	
-09/1/96		
	Redwing and Fieldfare were seen in the same gardens from mid-January until late February and a Redwing even came to the same bird-table as was used by the black-cap but it was not seen to feed. (MC)	
05/1/96	Male Red-breasted Merganser on the Water of Leith, below Stockbridge. (CR)	
09/1/96	Seventy-two Pochard, male and female, on Duddingston Loch. (CR)	
19/1/96	Siskins in the garden, Penicuik, feeding on peanuts (DC)	
22/1/96	Female Blackcap in the garden, Penicuik, feeding on seeds and apple cores. (DC)	
26/1/96	Stickleback and Minnow frozen in thick ice in Ravelston Quarry Pond, NT 217743. (MR)	
29/1-12/2/96	In garden, Penicuik; a Fieldfare arrives and each time chases off all other birds. Feeding mostly on apples. (DC)	
06/2/96	A flock of Fieldfare in the garden, feeding on apples; later, a Song Thrush. NT 216746 (MR)	
	Twenty Waxwings, feeding on crab apples, E.Fettes Av. (CR)	
13/2/96	At Tynninghame/Musselburgh - Bewicks, Whooper, Black and Mute Swans; Pink-foot, Greylag, White-fronted, Brent and Barnacle Geese. (JS)	
	A Slavonian Grebe on Duddingston Loch. (CR)	
17/2/96	A dead badger was found lying beside the A68 near to Soutra. It had minimal damage and, after rather complicated arrangements, was delivered (deep-frozen) to the Zoology department of the Royal Museum of Scotland. It is planned that it will soon be featured in a major new display in the Museum. (ES)	
20/2/96	Snow fell, and with it the aggressive Fieldfare to garden, Penicuik! Twelve Long-tailed Tits, feeding on nuts, in garden. (DC)	

21/2/96	One Fieldfare is a daily visitor to the garden for the apples put out for the birds; a very aggressive bird.	(MR)
04/3/96	A movement of Geese, flying NW, in last few days.	(MR)
05/3/96	Flock of 30-40 Waxwings in and below a Rowan tree, Currie.	(GS)
08/3/96	Large flock of about 100 Lapwings feeding in a grass field beside Harlaw Reservoir.	(GS)
	A Grey Wagtail was seen in the Cloister Courtyard of the Reid Memorial Church, Blackford Hill, nowhere near any water .	(MC)
10/3/96	Great Crested Grebes displaying on Linlithgow Loch.	(MR)
	A Conger Eel about 2m long washed up on the beach, east of the Black Burn, Blackness. A drowned Black Mink found nearby.	(MR)
13/3/96	A Red-necked Grebe on Duddingston Loch.	(CR)
21/3/96	Male and female Siskin at garden bird-table, followed by Coal Tit and male Blackcap, Balerno.	(GS)
22/3/96	A flock of <i>circa</i> 40 Waxwings in the garden trees and shrubs. NT 216746.	(SR)
25/3/96	Great crested grebes displaying at Harperig Reservoir.	(EO'D,MC)
	Large flock of Redwings in the Meadows attracted by the operation of a grass aerating machine.	(GS)
30/3/96	Two juvenile Tawny Owl, Bawsinch.	(CR)
	Beside the river at Ironbridge (SJ 6804) - several square metres of Scarlet Elf-Cap (<i>Sarcocypha coccinea</i> , previously <i>Peziza coccinea</i>).	
	NOTE: Most of what has been previously named as the species <i>coccinea</i> is thought to be the species <i>austriaca</i> . The distinction requires the microscopic identification of hairs on the sporing surface (the underside) of the specimen so please retain a small piece of any specimen found for microscopic identification as records of <i>Sarcocypha austriaca</i> for Scotland are few and far-between!	(ES)
01/4/96	Over NW Edinburgh, four noisy gulls were observed harassing a buzzard.	(MR)
	The body of a Four-banded Longhorn Beetle, <i>Strangalia quadrfasciata</i> , was found within a dead branch (at least 60 cm long and 5 cm in diameter) in the Forest of Dean. The branch was stained green throughout by the fungus <i>Chlorociboria</i> : from the small cup-like fruiting bodies it was possible to identify the species as <i>C aeruginascens</i> (rather than <i>C aeruginea</i>). The long tunnels made by the beetle were evident and a larval case was also found.	(ES)
02/4/96	Frogs mating in the Lammermuirs - and making a lot of noise about it .	(MA,MC,SS)
04/4/96	Small Tortoiseshell Butterfly in garden, Penicuik.	(DC)
05/4/96	Golden Plover and white Mountain Hares on the hills above the Manor Valley and a flock of 20 curlew in the valley below.	(MC)
	Two Tortoiseshell Butterflies and fourteen 7-spot Ladybirds in the garden. NT 216746.	(MR)
06/4/96	Approx 20 Waxwings, feeding of Cotoneaster berries in front garden in Ashley Terrace.	(DM)
07/4/96	Great Spotted Woodpecker drumming on Oak, Hopetoun.	(TW)
13/4/96	Chiff-chaff singing in Bog Wood, Hopetoun.	(MR)
15/4/96	Jay in an old Beech being harassed by Crows and Jackdaws.	(MR)
20/4/96	Swallows flying around the stables, Hopetoun.	(MR)
21/4/94	Willow Warbler in Bog Wood, Hopetoun.	(MR)
22/4/96	First House Martins seen at Posso farm near Manor Water.	(EO'D,MC)
28/4/96	Four Tortoiseshell Butterflies on Cannon Bank, Hopetoun.	(MR)
01/5/96	A Peregrine Falcon in the Wildemess area, Hopetoun. Kestrel and Sparrowhawk also seen. Tawny Owl nest with two chicks in fork of an old tree.	(TW)
06/5/96	At a farm near Balerno, the Isopod <i>Metoponorthus pruinosis</i> and the Chilopod <i>Cryptops hortensis</i> .	(CR)
07/5/96	Pair of Grey Wagtails, pair of Moorhen, and a male Mallard on patrol, Ravelston Quarry Pond, NT217743. Above the quarry, Climbing Corydalis (<i>Ceratocapnos claviculata</i>) [†] in flower.	(MR)

Old name: [†]*Cordyalis claviculata*

08/5/96	A flock of Dotterel near the summit of Coulter Fell.	(MC,SS)
	In Ravelston Wood, songs of Chiffchaff, Willow Warbler and Blackcap.	(MR)
14/5/96	A Stoat at Bawsinch.	(CR)
16/5/96	<i>Mitrophora semilibera</i> , a spring fungus with no common name, on the disused railway line, Ravelston.	(JM,MC,EF)
27/5/96	Orange Tip butterfly in the garden NT216746; a young fox on the path at 9.15 a.m.	(MR)
02/6/96	<i>Inocybe queletii</i> collected at Yellowcraig.	(EF)
06/6/96	Painted Lady Butterfly, Oxfangs.	(JS)
08/6/96	Many Orange Tip Butterflies in the grounds of Broxburn House, NT 698775.	
	<i>Populus tremuloides</i> , Quaking Aspen from N America, and <i>Allium ampeloprasum</i> , Wild Leek, which are very uncommon in Scotland.	(MR)
11/6/96	New Zealand Flat Worm at Bawsinch.	(CR)
17/6/96	A Painted Lady butterfly at Lauriston Castle	(CR)
	Two Painted Lady butterflies, Hopetoun.	(MR)
	A pair of Moorhen hatched six chicks on the Round Pond, Hopetoun.	(MR)
22/6/96	A spike of Bird's Nest Orchid (<i>Neottia nidis-avis</i>) below Oak, Hopetoun.	(MR)
	Watched a Stoat carrying a baby rabbit to its den under a tree stump. It ran in spurts of about 1m. At the den it was met by a second Stoat, presumably its mate. A week later a dried out rabbit skin lay by the stump.	(MR)
05/7/96	On waste ground beside Ravelston Quarry Pond, I counted thirty two flowering spikes of Common Spotted Orchid (<i>Dactylorhiza fuschii</i>) and one of Northern Marsh Orchid (<i>D purpurella</i>)	(MR)
06/7/96	On an ENHS outing, a Whinchat on Dunbar Common.	(MR)
07/7/96	In Flora Wood, Near Walkerburn, <i>Inocybe calospora</i> . The name implies that the spores are beautiful, but as they look like anti-personnel mines, one prefers to look on them as interesting rather than beautiful!	(EF)
10/7/96	A Painted Lady butterfly on Marigolds, in garden, Penicuik.	(DC)
	Rough Comfrey (<i>Symphytum asperum</i>) seen on the Bilsdean and Dunglass ENHS outing.	(MR)
13/7/96	Two dead Hedgehog and destroyed nest, Bawsinch. Probably killed by fox.	(CR)
17/7/96	Mink at Bawsinch.	(CR)
20/7/96	Two specimens of Small Pearl-bordered Fritillary at Blawhorn Moss National Reserve.	(CR)
21/7/96	In a Spruce wood near Loch Morlich with both Norway and Sitka Spruce close by, <i>Bankera violascens</i> . An unexpected find, not usually seen in the U.K. but always associated with Spruce. Confirmed by Dr R Watling.	(EF)
-/7/96	At Fireburnmill near Coldstream, NT389828, Flowering Rush, (<i>Butomus umbellatus</i>) .	(CS)
04-11/8/96	In the North Deer Park, Hopetoun, logged the following Butterflies: 30 Small Tortoiseshell, >10 Large White, >40 Meadow Brown, 7 Orange Tip, 6 Painted Lady, 3 Red Admiral, 4 Green-veined White, 1 Small Copper.	(TW)
	Also, two Six-spot Burnet Moths.	(MR)
8/96 & 9/96	Many Silver-Y and Golden-Y Moths, Hopetoun.	(MR)
10/8/96	A Hooded/Carrion Crow hybrid at Silverknowes.	(CR)
13/8/96	Earwig, <i>Labia minor</i> , at Bawsinch.	(CR)
17/8/96	Dark Green Fritillary at Sheep Path Glen, VC82.	(CR)
25/8/96	Small-flowered Geranium (<i>G. pusillum</i>) on Cannon Bank, Hopetoun.	(MR)
26/8/96	In garden, Penicuik; White Buddleia full of Red Admirals, Painted Ladies Small Tortoiseshells and White Butterflies.	(DC)
30/8/96	Painted Lady butterfly at Musselburgh Lagoons.	(CR)
02/9/96	Numerous Speckled Wood butterflies seen in Donegal during warm weather.	(EO'D,MC)
12/9/96	Crown Vetch (<i>Coronilla varia</i>) at Millbank Bridge over Leith Walkway, Lanark Rd.	(MR,GS)
13/9/96	A fox seen in the street in the early afternoon, NT 216746	(MR)
14/9/96	First Geese of the winter, flying over Hopetoun, NT090790	(MR)
16/9/96	Chiffchaff singing loudly in Ravelston House Wood.	(CR)

18/9/96	Peacock butterfly at Hopetoun, the first since 1983.	(MR)
23/9/96	Painted Lady butterfly in the garden, NT 216746.	(MR)
24/9/96	In garden Penicuik; Peacock butterflies appeared to join Red Admirals Painted Ladies and Small Tortoiseshells on Dahlias.	(DC)
29/9/96	Large flock of Geese flying S E over Hopetoun.	(MR)
Summer/96	Pipistrelle and Long-eared Bats in the stable roof at Hopetoun. Confirmed by Lothian Bat Group.	(MR, TW)
29/9/96	<i>Leptoporus mollis</i> , a polypore of an amazing red colour, and very rare, was found on a conifer log in Penicuik woods on an ENHS outing. Identified by Professor R. Watling.	(MC)
-/9/96	<i>Volvariella bombycina</i> , first seen last year in the grounds of Craighouse, has fruited again on the same tree. Access has been hampered by extensive building activity in the grounds and temporary fences everywhere.	(EF)
1/10/96	In the garden, Penicuik; Chrysanthemums covered with Red Admirals, Small Tortoiseshell and Painted Lady butterflies.	(DC)
14/10/96	In lush grassland at Moorfoot Farm, approximately 150 Barnacle Geese.	(EO'D, MC)
19/10/96	On a rotting tree stump in Covenanters' Wood, Colinton, <i>Pluteus umbrosus</i> , not usually seen in Scotland. Confirmed by Dr R Watling.	(EF)
23/10/96	In the garden, Penicuik; the last of the Red Admirals seen.	(DC)
02-6/12/96	A flock of about 40 Waxwings in Chamberlain Rd on three occasions during the week.	(EF)
07/12/96	An orange-red fungus <i>Paurocotylis pila</i> , at the side of the road in Beecraigs Country Park. This very rare globose fungus, which comes from New Zealand, fruits during the winter months. It has been found occasionally in England but meantime Beecraigs is probably the only Scottish site. It was originally seen there by the SE Scotland Fungus Group in December 1994. Note: A description and photographic illustration of the fungus can be found in the February 1993 issue of <i>The Mycologist</i> which is available in ENHS library.	(EF)
09/12/96	About 25 Waxwings in Holyrood Park near former Elsie Inglis Hospital.	(ES) (EF)
16/12/96	A male blackcap was again seen on the bird-table in the Blackford Hill area.	(MC)

Going by the Book, or How Not to Identify Fungi

During a walk in late August in the Dunglass Estate, a large yellowish blob on the lower trunk of a Holm Oak caught my eye. On closer examination it proved to be a long oval-spongy fungus, about 12" X 4" in a deep cleft in the bark. It had watery drops all over its surface and I could not recall having seen one like it before.

Recourse to Phillip's "Mushrooms" revealed that the only illustration in the book at all resembling my find was *Dichomitus campestris*, but a glance at the text was not encouraging. "...Rare, known only from Scotland" did not necessarily exclude it, but size and habitat were wrong, and there was no mention of 'weeping'. I lack both knowledge and microscope to make use of the technical details, so I phoned Elizabeth Farquharson who nobly offered to come down and see the fungus.

But before her visit, I went back to the site and found that the mass was now slipping downwards within the fissure of the bark, and hardening at the base, so I picked up 'Mushrooms' again and began to read through the Bracket Fungi. At last, I found it - *Inonotus dryadeus* - "exuding drops of yellowish liquid" and, moreover, "parasitic on various species of Oak". The illustrations of rounded young specimens and dry adult bracket bore no obvious resemblance to the Dunglass version, but an explanation was there too "sometimes forming large irregular cushions".

Elizabeth duly came, and agreed the identification, though she had never seen the fungus in this form. The fungus is uncommon even in the south of the country, and rare in Scotland. Possibly the hot spells of the last two summers have triggered a more northerly spread. The appearance, then, of this variant from the normal growth of *Inonotus dryadeus*, on a Holm Oak (*Quercus ilex*), itself a Mediterranean species much less common than the "English Oak", and on a readily accessible site, is particularly fortuitous.

Margaret Watson

The Demise of a Silver-Y

One day in the last week of August, I was laying a few concrete slabs in the garden. Halfway through the job my attention was taken by a fluttering at ground level on the area I had just levelled off for the next slab, and closer examination revealed a wasp with its jaws apparently sunk into the body of a moth. The moth's struggle for survival was initially powerful enough to cause the pair to tumble about for maybe two or three minutes, but escape was never likely, and, soon after, it was lifeless.

The wasp did not seem to change its grip on the dead moth but it was soon apparent that it had been gnawing away at the body when the wings dropped off. Half a minute later the moth's head and thorax were separated from the abdomen. Gripping the former in its jaws, the wasp, with some difficulty took off. However, before departing the scene it circled over the spot a couple of times, then flew off, presumably to its nest.

Wondering if it would return for the remainder of its prey, I rested a bit. And within a few minutes the predator returned, did a few more circles as if homing in on the food source, and was soon attempting to lift the moth abdomen. But it proved to be too heavy, so further nibbling was necessary to reduce the bulk. After a few trials the load was adjusted to a just manageable level, and again, after circling around, off it flew.

Thinking that was the end of the show, I proceeded to lay the next slab on top of the cast Silver-Y wings and the spot where the body had lain. Imagine my surprise a short time later to see the wasp back again, flying around with what appeared to be waspish frustration at not being able to locate the point of kill. It gave up eventually and so, reluctantly, I was able to get on with the job.

Jim Stewart

Migrant Dragonfly

On 3rd November 1996, David Patterson, working at the Caerlaverock Reserve of the Wildfowl and Wetlands Trust, noticed a large dragonfly of a kind he did not recognize. About 2.5 inches long, this dragonfly, in dorsal view, was of a dull and sandy yellow colour with a black line of varying widths running down the centre of the abdomen. The most obvious feature however was the brilliant blue of the second segment of the abdomen.

He took it to the Tullie House Museum in Carlisle where Steve Hewitt, Keeper of Natural Sciences, identified it as the Vagrant Emperor, *Hemianax ephippiger*. It was a magnificent specimen, still alive and in pristine condition when it arrived at the museum where it was duly photographed and where the specimen is being retained.

As its common name implies, this species is a wanderer. It is commonly found throughout Africa and breeds sporadically in Southern Europe. Only very rarely has it been recorded in Britain in the past though in the 1980's and 1990's most years have seen one or two individuals recorded, mainly from the south of England as one would expect. Scotland had one previous record. In 1970, Bobby Tulloch was handed a specimen that had flown into a hayrick on Fetlar, Shetland. The Vagrant Emperor has even reached Iceland, no fewer than three times, and is the only dragonfly species ever recorded there.

The Caerlaverock specimen was in such excellent, pristine condition that it seems likely to have been a recently emerged individual that had started to move northwards and got caught up in the strong prevailing southerly winds. It was so late in the year that it is more likely to have come all the way from Africa rather than from some breeding area in southern Europe.

E M (Betty) Smith

Outbreak of *Galinsoga parviflora* near the West End

'Gallant Soldier', an annual of the Compositae family, is described in the 1988 Midlothian checklist as 'a local garden weed'. It appears however in the most urban of settings where wildlife is usually restricted to Pigeons and Oxford Ragwort. A few years ago, George McDougall found a plant growing in a basement in Hanover Street. This autumn, single plants were growing between paving stones outside two buildings in Torphichen Street about 100 yd. apart and separated by the road. Later, a further four plants were spotted in a basement in Atholl Place, about 100 yd. from one of those in Torphichen Street.

David Adamson

Another outbreak - Bird's Nest Fungus

These tiny *Ascomycetes*, resembling tiny eggs in a cup or nest, were first noticed in heavily composted soil in plant tubs in our garden on Sept 7. A few days later, we found more growing on the vegetable patch. Their substrate is almost certainly introduced compost, perhaps from peat-free growbags. Now, in early November, some persist. They are all specimens of *Crucibulum leave*. Once you have spotted these fungi, you begin to look for them elsewhere. A second species was found at Buckie in the soil around a car park. Again this soil had been enriched, this time with bark mulch. There were about five specimens of *Cyathus olla*, recognisable by the flattened mouths of the cups. These helped to compensate for what had been, till then, a rather modest season for fungi.

David Adamson

A possible case of Neoteny

The small fire-ponds and more recent conservation ponds in the Forest Enterprise Culbin Forest area are some of the best places to see the scarce (in Scotland) Southern Hawker dragonfly. On 30th July 1996 we were trying out a new technique to try to collect the very small larvae of this species. Soon we had a few in the pond-net and also assorted other invertebrates and some Palmate Newt tadpoles. One of these latter showed abnormal characters. It was photographed by Mo Richards alongside a normal specimen and a measurement scale. The normal newt tadpole was approximately 3 cm overall whereas the 'giant' was all of 6.5 cm. The tadpoles were returned to the pond.

With the feathery external gills characteristic of tadpoles prior to metamorphosis the giant was clearly still a newt tadpole. The tail which was fully as long as the head and body together ended in a fine thread-like filament, a character of a sexually mature Palmate Newt. It would seem that the giant tadpole had over-wintered in the water and grown larger in its second year. That metamorphosis was at least partial was evidenced by the development of the tail filament but whether or not it was now capable of breeding while still in the 'feathery gill' stage we could not tell. This species, in the Netherlands, has been recorded as having a small population that over-winters as larvae (tadpoles) even into their third year when they develop into neotenus newts. In true neoteny the newt breeds in the larval form, i.e. it still has external gills as in the Axolotl. In this case, it is more likely that for some unknown reason partial neotony had occurred and the gonads had failed to develop.

E M (Betty) Smith

Water Vole Survivor

On 10th August 1996, we joined a group of Aberdeen entomologists doing some survey work in the Glen Derry woodlands. On a dull damp day we were not seeing any dragonflies or finding any but the more common odonate larvae. Two kilometres north of Derry Lodge where the old Scots Pine forest ends there is a very shallow lochan and we were at the upper end of it when a small mammal launched itself from one side of a tiny inlet, swam across and disappeared under water with a 'plop'. It was a Water Vole and my first sighting in Scotland for perhaps twenty years.

Until the 1960's Water Voles were numerous in the Lothians. Walk up any burn or round many pools and one could hear the 'plop' of Water Voles as they left the banks for the safety of the water. Sit on a river-side bank in the sun and there was one swimming steadily across from a well-grazed grassy area to its safe hole in the bank, with an underwater entrance too.

In the 1970's, I was making regular rounds of Gladhouse Reservoir surveying the water and other birds. Suddenly, after 20 years of counting breeding Moorhen, Coot and Tufted Duck, I realised something was wrong. At first I blamed fluctuating water levels in the drought years, but, with a high water level in April/May and no sign of either Moorhen or Coot, with Tufted Duck adults and broods slumping from around 25 pairs and 20 broods to one or two and the Great Crested Grebe skulking offshore instead of sitting on eggs, suddenly the culprit stared me in the face - Mink! By this time, as I soon realised, the Water Voles too had vanished. They are still absent and there seems little chance of a happy come-back.

When I mentioned the Water Vole to Dr Mark Young, he was very interested and

made a special point of going to the area and finding the Vole 'signs' - grazing area and associated hole in the bank - to confirm the record. Apparently someone in Aberdeen University is doing a Water Vole survey to try to locate any area where the animals are surviving. The very few that have been found have been at the extreme upper limits of possible former breeding streams. Presumably there is insufficient food to encourage Mink to take up residence in these areas and a very few Water Voles can survive. Truly the Mink must rank as one of our most detested introductions. Has anyone seen a Water Vole in recent years?

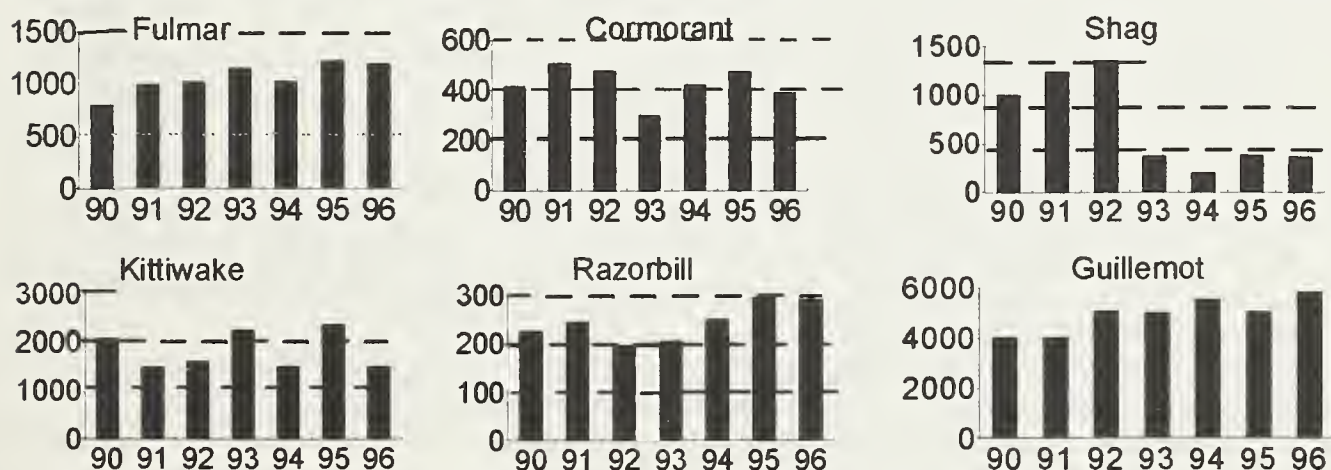
R W J Smith

Forth Island Bird Counts 1996

Last year it was decided to run the counts one week later than usual, starting in the first week of June. It was felt at the time that this was a mistake since 1995 was a year when the birds nested earlier. Bad weather caused its usual problems resulting in us running even later. The result was that by the time the last island was counted the birds may have been leaving the nest to go to sea. This year we moved back to our normal time - starting the last weekend in May and continuing into June. Unfortunately it was ill health which took its toll this year by keeping two of our main counters on shore for the whole counting period. Luckily we were able to rely on the RSPB to carry out the counts on their islands.

For a number of years the Bass Rock has not been counted. This is due to the gannets having spread all round the cliff tops thereby preventing the counters reaching the necessary vantage points to count from. This year the Fife group decided to carry out an experiment. They took photographs from the boat going round the foot of the cliffs. Normal counts were also made of certain species for comparison. When the films were analysed it was felt that the exercise had been worthwhile and that a reasonable estimate could be made.

On the whole this year's counts show variations between the islands as usual. It would seem that most species have remained at about the same numbers as last year. Normally, each of the regular counters counts the same areas of each island each year. This routine was disrupted this year - another potential source of variation.



A number of points are evident from the above charts covering the seven years:

- Fulmar numbers have shown a general increase although there may be a levelling out in the trend.
- Overall cormorant numbers have seen significant but not major fluctuations and are roughly similar between 1990 and 1996. Their distribution between the islands has altered markedly. However, cormorant numbers are down by about 18% from last year.
- Following the disastrous winter of 1992/3, when thousands of Shags were washed ashore dead from starvation, numbers have remained stable but have not recovered.
- Auk numbers have remained relatively stable over the period. Numbers do fluctuate from year to year: there is perhaps an underlying small increase.

Summary of seabird counts for the Forth Islands, 1996

	Bass Rock	Craigleith	Lamb	Fidra	Eye-broughty	Inchkeith	Carr Craig	Inchcolm	Haystack	Inchmickery	Inchgarvie
Fulmar (aon)	166	184	14	331	0	429	0	237	0	32	188
Cormorant (nests)	0	78	137	0	0	84	26	0	60	0	0
Shag (nests)	47	159	77	81	0	16	5	3	2	18	0
Gannet (nests)	x	0	0	0	0	0	0	0	0	0	0
Eider (nests)	c7	x	x	256	2	x	2	x	0	230	51
Great B-b Gull (nests)	1	6	3	4	0	2	0	0	0	1	0
Lesser B-bGull (nests)	c60pr	x	140	467	0	x	c3	x	1	196	11
Herring Gull (nests)	c240pr	x	140	1401	11	x	54	x	18	196	195+
Kittiwake (nests)	2142	509	143	314	0	426	0	144	0	0	0
Common Tern (nests)	0	0	0	0	0	0	0	0	0	15	0
Arctic Tern (nests)	0	0	0	0	0	0	0	0	0	0	0
Roseate Tern (nests)											
Sandwich Tern (nests)	0	0	0	0	0	0	0	0	0	0	0
Razorbill (sites)	188	73	73	74	0	68	0	3	0	0	0
Guillemot (birds on cliffs)	3225	1877	3650	173sts	0	81	0	0	0	0	0
Puffins (birds)	c20	148	148	410sts	0	186+ 423sts	0	42(1n)	0	13sts	0

Notes: x = no count; 0 = none breeding. aon = as on nest. c=circa, about. n=nests. s/sts=sites.
Eider and gull counts are incomplete.

Bill Bruce & Tim O'Donoghue

Rainfall in Corstorphine, 1996

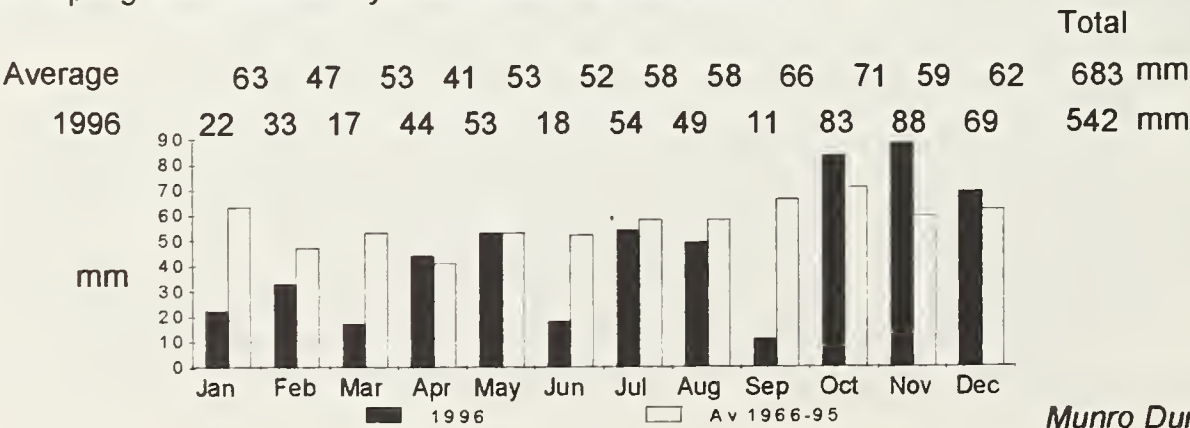
Most of 1996 was unusually dry, and up till quite late in the year, it looked possible that the annual total rainfall for Corstorphine would be lower than that for any year in the previous thirty. Below are the monthly totals for 1996 and the corresponding averages for the 30 years from 1966 to 1995 (for further details of which period see the 1995 journal).

Although the rainfall for the year ended up at about 80% of average, until late October it was running at only about 60%. Only 330mm were recorded up till 23 October, but the following six weeks yielded 170mm. Despite this late burst, the annual total was 542mm, the lowest since a run of very dry years in the early 1970's; 1971 with 543mm, 1972 with 466mm, and 1973 with 498mm. Since then the lowest had been 558mm in 1989.

1996 produced the driest January to September count of the thirty-one year period with 301mm, although the driest nine month run of all was from July 1972 to March 1973 when only 223mm fell.

Over the last year winter was the driest season, the 72mm which fell from December 1995 to February 1996 being only 57% of the normal for that season. The spring rainfall was 78% of normal, and the summer, with 114mm or 72% of normal, was only slightly wetter than the fondly-remembered summer of 1995. Despite the heavy fall of late October and November, the autumn rainfall was 7% below average.

Complementing 1996's low rainfall, Meteorological Office analyses indicate that the year was also sunnier than average in south-east Scotland except for spring, while a cold winter and spring were followed by a warm summer and autumn.



Munro Dunn

EXCURSIONS 1995-6

B Botany	G General	ML Mosses & Lichens
E Entomology	Ge Geology	O Ornithology
F Fungi	Gr Grasses	T Trees

*Day Excursions***1995**

11 Nov	Vane Farm RSPB Reserve	O	Warden
09 Dec	Musselburgh /Kilspindie	O	Mr C Pountain

1996

20 Jan	Currie Circuit	G	Mr G Swift
17 Feb	Pencaitland-Saltoun Wood	T	Miss L Blades
16 March	Lochwinnoch RSPB Centre	O	Mr Ian McCallum
13 April	Hermitage of Braid	G	Mrs M Robertson
27 April	Kinnoull Hill	O	Mr J Stewart
04 May	Dalkeith Country Park	O,B	Mr & Mrs D Adamson
11 May	Burnmouth-Eyemouth	O	Mr D Gill
18 May	Glen Lednock, Cornie	G	Mrs J Gilchrist
25 May	Falls of Clyde, New Lanark	G	Mr J Derbyshire
01 June	Eildons	G	Mrs C Campbell
08 June	John Muir House & Broxburn	G	Mr G White
14-17 June	North Pennines weekend	B	Mr D Adamson
22 June	Tentsmuir, St Andrews	B,O	Mr G Swift
29 June	Earlsferry Links	G	Miss L Blades
06 July	Dunbar Common	G	Mr D Jones
13 July	Bilsdean and Dunglass	G	Mrs M Watson
20 July	Tailend Moss, Bathgate	E	Mrs E (Betty) Smith
27 July	Loch Lubnaig-Strathyre	G	Mr I McCailum
03 Aug	Schiehallion Limestone area	B	Miss L Pilling (for J Muscott)
10 Aug	Kinghorn	Ge,G	Mr W Baird
17 Aug	Smailholm & Lindean Res.	B	Mr K Robeson, Ranger
24 Aug	E Lomond Circuit	G	Mr M Dunn
31 Aug	Games Hope Valley, Talla Res.	B,O	Mr D Robeson, FWAG
05 Sept	MV Gardyloo, all-day sail	O	Mr J Stewart
07 Sept	Scone Palace Grounds	G,T	Mrs M Robertson
14 Sept	Tynninghame	E,G	Mr D & Mrs S Adamson
21 Sept	Calder Woods	F	Mr M Richardson
28 Sept	Penicuik Estate	G	Mr G McDougall
12 Oct	Hermand Wood SWT Reserve	F	Mr A Newton
19 Oct	Covenanters Wood, Redford	F	Mrs E Farquharson

Evening Excursions

29 May	Hermitage of Braid	ML	Dr R Kemp
05 June	Craighouse Estate	G	Mr R Baillie
12 June	Holyrood Park	B	Miss J Muscott
19 June	Bush Estate	Gr	Mr G Swift
26 June	Musselburgh Lagoons	B	Mrs M Robertson
03 July	Bawsinch SWT Reserve	G	Mr C P R Rawcliffe (for Mr C McLean)
10 July	Corstorphine Hill	G	Ranger
17 July	R Esk, Musselburgh	G	Miss B Mitchellhill
24 July	Roslin Glen	E	Mr J Stewart
31 July	Union Canal, Ratho	G	Mrs H Rowbotham, Ranger
07 Aug	Braidburn Valley Park	G	Mrs E Farquharson

WINTER INDOOR MEETINGS - 1996

January: Michael Osborne, Director, Royal Scottish Forestry Society, gave a talk entitled "Ye can aye be stickin' in a tree". Membership of the Society comes from all sides of the timber industry and interested non-professionals. A range of forest types was described, from natural scrub and high forest through landscape woodlands typical of traditional large estates to commercial plantations. The speaker then dealt with various recent issues and developments. Broad-leaved trees are now much more in favour, sometimes replacing conifers. The more commercial end of the spectrum increasingly eschews monoculture, matches planting types to physical conditions, incorporates broad-leaved trees and leaves areas within forests unplanted, as encouraged by current grant schemes. Coppicing for energy is being investigated. Canadian rotational extraction of naturally regenerating forests, was described, particularly as applied to British Columbia.

An extended discussion dwelt on aspects of wildlife promotion and pest control. Introduced Sika Deer, now inter-breeding with native Red Deer, are more of a woodland species and so are more damaging to trees and more difficult to control. Finally Mr Osborne dealt with the Millenium Forest, promoted by the Society, and involving first a project near Balmaha to provide a forestry bridge between Loch Lomond and Loch Ard.

February: The topic was "The Urban Forest", chosen by David Jamieson, Nature Conservation and Urban Forestry Officer for Edinburgh District Council. The speaker outlined the development of the Council's pro-active approach to its woodland resource - from trees in gardens and streets to relict estate woodlands - over the past few years. Trees in the urban environment brought a wide range of physical, psychological and economic benefits, many obvious, some not as well-known, such as a reduction in anti-social behaviour, the filtering out of dust and soot and energy conservation. It is estimated that 6% of Edinburgh is wooded. This represents about 1.5 million trees, about a third of which are on ground managed by the Council. A strategy became necessary as a result of past neglect, negligible re-stocking, limited access, a parks policy which had favoured grass and exotics, and the spread of Dutch Elm disease. After a survey in 1990, principles and policies were established in 1991. The overall objective is to integrate into the urban environment a sustainable, mixed age, mixed species tree resource. 1993 saw the production of a master plan and the establishment of an advisory group covering the various local authority interests and other relevant interests such as SNH. Priority areas lie in a belt from Leith southwards, round the Eastern suburbs, Wester Hailes and the housing estates centred on Pilton. So far, several new community woodlands have been established and some woodland replacement has been carried out, specialist staff have been introduced into the recreation department, management and monitoring have been improved, a woodland burial programme has been started, and trees have been provided for gardens.

March: Emma Edwards-Jones, from the Heriot-Watt Dept of Civil and Off-shore Engineering spoke on 'Rivers for People and Wildlife'. The speaker, a biologist, explained that of the total length of Scottish rivers, 95% was adjudged non-polluted in 1980, and this had risen to 97% in 1990. Over the same period the length 'grossly polluted' had fallen by 50%. However, in some cases, e.g. the Almond, there has been a marked deterioration. 35% of the Almond's pollution was due to sewage, 19% to mining and quarrying waste, 17% to other industry and 15% to agriculture. Apart from pollution, there has been some habitat loss, of wetlands, banks and other channel features such as ox-bows, and this is continuing. Only 2% of rivers are covered by SSSI's, their nature - flowing from one habitat to another - making protection difficult. The speaker dealt in some detail with the effects of surface run-off and channel impoverishment. Regarding the former, the aim is to slow run-off by incorporating drainage features within the landscape, and providing storage ponds and wetlands. As to the latter, 'soft' engineering techniques can be used: for example, use vegetation to stabilize banks and water courses and limit disturbance to one bank only.

April: Members' night. *Eunice Smith* showed slides illustrating natural history in Australia, where only 30% of flora have been properly identified. *Ena Gillespie*, following her article in the 1995 Journal, described local species of Ladybird and illustrated the development through the grub and pupa stages. *David Adamson* introduced the forthcoming weekend excursion to the North Pennines area. *Margaret Abel* illustrated the Assynt area where a field trip is being scheduled in 1997. *Jean Murray* showed slides of wild flowers taken on a recent visit to Crete. *Elizabeth Farquharson*, also complementing a 1995 Journal article, illustrated

Whale jawbone arches in Scotland from Orkney to Campbeltown. In addition, there were a number of displays of spiders, shells, geological specimens etc.

September: In "A Lothian Breeding Bird Balance Sheet" Peter Gordon discussed gains and losses of breeding birds in the Lothians over three periods viz. before 1900, 1900-50 and 1950 - present. Birds which disappeared before 1900 included the White Stork (which bred at St Giles in the 15th century), Bittern, Red Kite and White-tailed Eagle. Starling, Raven and Great Spotted Woodpecker also disappeared but have since returned. Gains in the period included Shag, Tufted Duck, Pheasant and Woodcock. The period 1900-50 is better documented. There was permanent loss of Nightjar; Peregrine, because of persecution was lost temporarily, as was the Kingfisher. Gains were Great Crested Grebe, Pochard and Fulmar. In the third period, the Comcrake and Stonechat have gone while the Cormorant, Common Gull, Greylag, Collared Dove and Siskin are now breeding species. For the future the Sandwich Tern, Little Tern and Corn Bunting may cease to breed in the Lothians, while Ruddy Duck, Red Kite, Marsh Harrier and Osprey could start to do so.

October: The talk, given by Jim Stewart, followed the lines of the article on Spiders in this journal, except that it is not possible to reproduce the excellent colour slides of spiders shown on the evening.

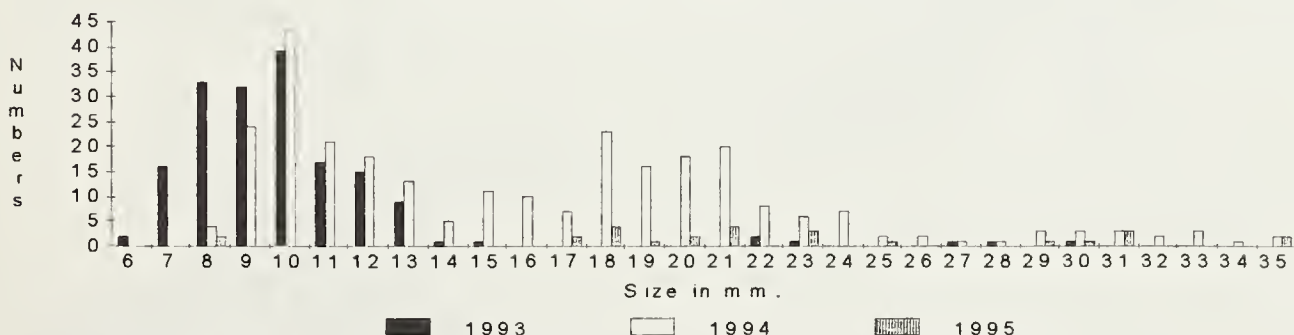
November: The immediate past-President, Miss Jackie Muscott, spoke about the Alpine plants of the Inchnadamph area, anticipating the Society summer meeting there in July 1997. She first described wet heathland vegetation which dominates the area - heathers, *Vaccinium* species, Sundews, Cloudberry (*Rubus chamaemorus*) and Dwarf Cornel (*Cornus suecicum*)[†]. The area is however noted primarily for the band of limestone running through it and producing limestone meadows, pavements and cliffs, and base-rich flushes. The rivers of the area have cut out gorges and in places disappear into cave systems. Some pavements are covered in swards of Mountain Avens (*Dryas Octopetala*). Among the many interesting plants are Fairy Flax (*Linum catharticum*), Yellow Mountain and Starry Saxifrage (*Saxifraga aizoides* & *stellaris*), Opposite-leaved Golden Saxifrage (*Chrysosplenium oppositifolium*), Scurvy-grasses (*Cochlearia* sp.), Alpine Bistort (*Persicaria vivipara*)^{††} and Sibbaldia (*Sibbaldia procumbens*). The most exciting plant however is Dark Red Helleborine (*Epipactis atrorubens*). Also worth searching for are Frog Orchid (*Coeloglossum viride*), pink Self-heal (*Prunella vulgaris*) and Stone Bramble (*Rubus saxatilis*). In the highest areas Thrift (*Armeria maritima*), Moss Campion (*Silene acaulis*) and *Racomitrium* moss are to be found. A special plant of the area is Norwegian Wormwood (*Artemisia norvegica*), found only on Cul Mor, where there are also Prostrate Juniper (*Juniperis communis ssp alpina*) and Mossy Cyphel (*Minuartia sedoides*). The coastal cliffs have swards of English Stonecrop (*Sedum anglicum*) and Roseroot (*Sedum rosea*)^{†††}.

Errata

The following errors in the 1995 Journal have been pointed out:

p 12 the 1993 and 1994 labels on the Azure Hawker diagram should be interchanged, as-

Azure Hawkers-size/number distribution
Measured in Sept of 1993, 1994, 1995



p 29, li 2. *Dysdera crocata* should be replaced by *Araniella cucurbitina*.

p 34, para 5, li 1 *Paradosa* should be replaced by *Pardosa*.

Old names: [†]*Chamaepericlymenum suecicum* ^{††}*Polygonum viviparum* ^{†††}*Rhodiola rosea*

EXCURSION REPORTS 1995 - 6

Lochwinnoch RSPB Nature Centre and Reserve, 16 March

A warm welcome was extended to the party of 27 members by Warden Liz Parsons, in marked contrast to the cold wet weather out of doors. Although the weather slightly curtailed this outing, enough was seen to appreciate the variety of habitats and wildlife to indicate that a return visit would be well worth while.

Prior to extensive drainage in the early 1800's, Lochwinnoch (Gaelic for 'Loch of the Wildfowl') was one large loch but draining caused it to dry out leaving Barr Loch, Castle Semple Loch, and Aird Meadow which lies east of the Nature Centre. This area dried out sufficiently to become meadow land, but it is now marshland and open water too deep for large flocks of divers or dabblers. All comprise an SSSI and are part of the much larger Clyde-Muirshiel Regional Park.

En route to the first hide, and through semi-natural deciduous woodland, in the nearby marshy area could be seen a large brown stand of Water Sedge (*Carex aquatilis*). Nearby the Greater Butterfly Orchid (*Platanthera chlorantha*) and other orchids adorn the area in summer. Our guide pointed out a 'plucking post' tree stump used by Sparrowhawks. We arrived conveniently at the hide just as the first group led by Ian McCallum was about to leave for the second hide. Bird sightings included Cormorant, Wigeon, Teal, Pochard, Goosander, Tufted Duck, Redshank, Lapwing, Curlew and Buzzard.

After lunch in the Centre, the coach moved on to take one group to walk along a disused railway line to Barr Loch, where the only sighting was a pair of Great Crested Grebe. The others visited the nearby Castle Semple Visitor Centre of the Clyde-Muirshiel Regional Park. It houses an award-winning interpretative display featuring the history and wildlife of the area.

Due thanks were accorded to Ian McCallum and Liz Parsons for a most interesting outing.

Graham Swift

Kinnoull Hill and Deuchry Wood, 27 April

Thirteen members led by Jim Stewart enjoyed a very varied walk on a bright and breezy day with showers keeping their distance. Two circuits were completed. The first was over Kinnoull Hill through open, mature woodland. The second was through Deuchry Wood which consists of various types and ages of plantation. The route here also included a section of stream-side meadowland.

Tits were everywhere. Green Woodpecker and Jay were encountered and Buzzard were busy overhead, but, with the late spring, summer visitors, apart from Willow Warbler and Chiff-chaff were not in evidence.

Badger setts were found on Deuchry Hill, some of them recently, if not necessarily currently, occupied.

Munro Dunn

Dalkeith Old Wood and Nature Trail, 4 May

The intention had been to follow the Woodland nature trail in the morning and the Riverside Trail in the afternoon but, at the kind invitation of the ranger, Cameron Manson, we made for the old oakwood instead. This is part of the Buccleuch estate not normally open to the general public. The oakwood is a site of Special Scientific Interest, many of its trees being 300-400 years old. There is no regeneration where sheep graze, and most of the trees are well past their prime. Even where sheep are excluded, there is little evidence of oak saplings.

The Edinburgh City Bypass is just outside the Estate boundary wall. A new road, possibly dual carriageway, is planned to run through the Estate just below the confluence of the two Esks, and only some 200 yards from the old oakwood. If this new road is built, the traffic will take its toll of the local roe deer population, and the wood's tranquillity will be lost.

During our visit a grey squirrel slipped and fell from a tree but bounced away apparently unhurt, evidence of the indestructibility of these rodents. Unfortunately a dog allowed off its leash received an electric shock from the perimeter fence and thereafter was continuously straining to get back home. There are two families of Green Woodpecker nesting in the oaks but the only woodpecker seen or heard was Great Spotted Woodpecker. We also

heard Chiffchaff and Blackcap, but there were no Willow Warblers. St George's mushroom was just pushing up through the turf, but the cool weather had checked the progress of spring, and insects and spiders were few and far between.

Over the past three years, the parts of the estate open to the public have been improved beyond recognition. In place of one badly signposted trail, there are now three trails which link to one another and are easy to follow. A good tearoom and craft shop and new toilets have been opened in the stable block.

After lunch, we followed the Woodland trail as it crosses and re-crosses the South Esk. It took us through two tunnels, an amphitheatre, and past the old conservatory. On the way we admired a large and spreading patch of Toothwort (*Lathraea squamaria*) and the abundant Pick-a-back plant (*Tolmiea menziesii*), as well as the more familiar Ransoms (*Allium ursinum*), Wood Anemone (*Anemone nemorosa*), and Leopardshane (*Doronicum pardalianches*). I hope that the botanists, whom we lost somewhere in the old oakwood, managed to visit this part of the estate.

The writer's own nature ramble ended with peppermint tea and cake in the tearoom, but some enthusiasts pressed on across the Montague bridge to explore the further delights of this woodland.

As this resource is on our doorstep and has so much of wildlife interest, from the point of view of those interested in plants, birds, fungi, invertebrates and mammals, I hope that the old oakwood and the country park are visited regularly by the Society in future years.

David Adamson

Burnmouth to Eyemouth, 11 May

The weather was far from spring-like when a coach-load of "Nats" descended on the Border village of Burnmouth, ready to sample the new coastal walk to Eyemouth. Fortunately the rain died down, but winter clothing was required to combat the wind and the cold.

Some interesting cliffs near Burnmouth led to an early controversy. Had we found the leaves of Burnet Saxifrage (*Pimpinella saxifraga*) or of the much rarer Salad Burnet (*Sanguisorba minor*)? A non-trivial question since the basal leaves of the two plants are quite similar. This probably accounts for the 'Burnet' part of Burnet Saxifrage's name. As for the 'Saxifrage' part, the plant may once have been classed with the true saxifrages, since like them, it frequently grows out of rock crevices (Saxifrage means 'stone-breaker' in Latin).

At a later date, the plants are easily distinguishable: Burnet Saxifrage is a white umbel fairly common locally, while Salad Burnet is a member of the Rose family. Both are lime-lovers, though Salad Burnet rarely grows directly on cliffs.



Once on the sea cliffs, we found many of the usual seaside plants - Thrift (*Armeria maritima*), Sea and Buckshorn Plantain (*Plantago maritima* and *P. coronopus*), Sea Campion (*Silene uniflora*), Sea Mouse-ear (*Cerastium diffusum*) and two kinds of Scurvy-grass, the common one *Cochlearia officinalis* and the rarer, smaller, usually purplish Danish Scurvy-grass (*C. danica*). The latter was noted as we approached Eyemouth, along with Scots Lovage (*Ligusticum scoticum*), rare in this part of the country and on the edge of its range, as it is now extinct south of the border.

There were also Primroses (*Primula vulgaris*), Cowslips (*P. veris*) and the hybrid between them, the False Oxlip (*P. x polyanthus*), believed to be the ancestor of the garden Polyanthus. Cowslips are usually confined to damp calcareous soils, and many of the most interesting plants on the cliffs were also lime-lovers: Meadow Saxifrage (*Saxifraga granulata*), Early Purple Orchid (*Orchis mascula*), leaves of Kidney Vetch (*Anthyllis vulneraria*) and Meadow Cranesbill (*Geranium pratense*), and most exciting of all, the skeletons of last year's Carline Thistle (*Carlina vulgaris*), another local rarity.

It was not the kind of day when butterflies are sighted, but the following birds were noted: Skylark, Yellowhammer, Wheatear, Pied Wagtail, and nesting in the cliffs, Fulmar, Shag, Kittiwake, Guillemot and Herring Gull. Apart from the wildlife and vegetation, both of which could stand further investigation, the cliffs were spectacular. Clearly this is a trip worth repeating sometime rather later in the year - and in better weather, if the Excursion Committee can be relied on to arrange that.

J Muscott

Glen Lednock, 18 May

Seventeen members assembled in the car park near the primary school in Comrie for this walk up the west and return by the east bank of the Lednock river. Unfortunately the weather throughout the day was rather dull and grey; a pity, for the area is noted for its butterflies.

Comrie is the earthquake capital of Scotland. Sitting on the Highland fault line, earthquakes have been recorded at irregular intervals since 1597 and the first seismographs in the country were set up there in the last century. The last of any magnitude was in 1965. When Vesuvius erupted in 1834, a series of shocks was felt at Comrie.

We walked up the road to the point where the path begins, and it led into the wood, a mixed wood with Oak, Birch, Elm, Willow, Larch, Spruce and other conifers but especially notable were some splendid Beech. Separate male and female flower tassels were evident on them and underneath there were many beech seedlings - not so easy to recognise at this early stage of development. The growth of some of the beeches was strange, as in several cases the main trunk had divided and then re-united a few feet higher up. This may have been caused by windy weather when the trunks were young so that two adjacent branches damaged one another making it possible for them to be grafted together naturally. Over the fence in wet meadow that had Mayflower (alias Cuckoo-flower or Lady's Smock, *Cardamine pratensis*), one of the food plants of the Orange-tip Butterfly, several of the species were seen a few days earlier. On that occasion there were also several Small Tortoiseshells and Green-veined Whites.

Among the flowers we saw along the path were Slender Speedwell (*Veronica filiformis*), Thyme-leaved Speedwell (*Veronica serpyllifolia*), Barren Strawberry (*Potentilla sterilis*), Sanicle (*Sanicula europaea*), Cow-wheat (*Melampyrum pratense*), and three types of rush - Soft (*Juncus effusus*), Hairy Wood-rush (*Luzula pilosa*), and Great Wood-rush, (*Luzula sylvaticum*). In the wood there were some magnificent trees, especially Oak and a few very large European Larch. Included in the ferns were Golden-scaled Male (*Dryopteris affinis*), Broad Buckler (*Dryopteris dilatata*), Polypody (*Polypodium*), Hard Fern (*Blechnum spicant*) and the very delicate-looking Oak Fern (*Gymnocarpium dryopteris*). There was a profusion of lichens everywhere; White-backed (*Evernea*) and Black-backed (*Pseudevernea*) were distinguished. This would be a very good area for an outing devoted to lichens. By a stream, Scented Liverwort (*Conocephalum conicum*) was found. In the trees, numerous little birds could be seen and heard; there were a variety of tits and a Tree-creeper, clearly finding lots of insects.

The path turned down steeply to the Little Cauldron, which proved to be quite spectacular with a series of cascades and deep pools. It could be viewed from a platform with many of the plants already seen on the path surrounding it. We climbed up from the Little

Cauldron and continued along the path, just in from the road, towards the Deil's Cauldron. By an old wartime building there was Hard Shield Fern (*Polystichum aculeatum*), Devil's-bit Scabious (*Succisa pratensis*), Goat Willow (*Salix caprea*) and Goldilocks (*Ranunculus auricomus*). The cauldron was in an impressive gorge with a profusion of Ransoms (*Allium ursinum*) on both sides of the river. From there we climbed up the steps to the road, seeing leaves of Valerian (*Valeriana officinalis*), Figwort (*Scrophularia nodosa*) and *Alchemilla glabra* on the way.

By this time, lunch was uppermost in the minds of most people, and a pleasant spot was found for the purpose in the trees just off the road. Half a dozen or so members peeled off at this stage to climb the hill to the Melville monument (Henry Dundas, first Viscount Melville, was the most powerful politician in Scotland in the latter part of the eighteenth century and member of the younger Pitt's War Cabinet before the latter's death in 1806).

After lunch a few people returned to Comrie along the west side of the gorge, some to watch birds in the woods. The rest crossed by the bridge beyond the woods and went down the east side, which, being largely coniferous plantation is not as full of interest. It is also uncomfortably steep in part. There was some concern about the weather which was obviously deteriorating, although in the event, the amount of rain was quite small.

In a field gateway near the bridge we saw Whitlow Grass (*Draba incana*) and, in the ditch, Bog Pondweed (*Potamogeton polygonifolius*), Bulbous Rush (*Juncus bulbosus*), Lesser Spearwort (*Ranunculus flammula*), and Butterwort (*Pinguicula vulgaris*). By the road were Heath Rush (*Juncus squarrosus*) and Fairy Flax (*Linum catharticum*). After the bridge, by the river, were Bird Cherry (*Prunus padus*), Brooklime (*Veronica beccabunga*), Marsh Hawksbeard (*Crepis paludosa*), Blinks (*Montia fontana*), Water Forget-me-not (*Myosotis scorpioides*), and Bog Stitchwort (*Stellaria alsine*). Further on we saw Spring Sedge (*Carex caryophylla*).

The wood contained Douglas Fir (*Pseudotsuga menziesii*) and a number of other Fir species. The path then descended back to the river, where we found quite a rich flora including Spring-beauty (*Montia perfoliata*), Enchanter's Nightshade (*Circaea lutetiana*), Toothwort (*Lathraea squamaria*), Tuberous Comfrey (*Symphytum tuberosum*), Medium Winter-cress (*Barbarea intermedia*), Sticky Mouse-ear (*Cerastium glomeratum*), and Balsam Poplar. On the previous "scouting" expedition, those exploring the walk had been shown at this point a very large fresh water shell-fish, whelk-like and about four inches long, apparently taken from the river. What was it? The scouts were mystified. On the same occasion we found a sheep's skull showing clearly the bone fungus *Onygena*.

From there it was but a short distance back to the cars or the teashop.

Jean Gilchrist

Craighouse Estate and Royal Edinburgh Hospital Grounds, 5 June

Nineteen members made two short circuits round the largely neglected estate policy woodlands west and south of the Royal Edinburgh Hospital, and on the northern and eastern slopes of Easter Craiglockhart Hill, led by Ron Baillie. The main interest was in the less common tree species which abound, and about which Mr Baillie had a great wealth of information; for example, there was Sugar Maple, Austrian Pine, Service Tree, Hungarian Oak, Silver Lime, Railway Poplar, Lombardy Poplar, and Wheatley Elm. There were also some interesting flowering plants: viz. Narrow-leaved Hogweed (not recorded elsewhere in the Lothians since 1934), Yellow Archangel (*Lamium galeobdolon*), Cuckoo-pint (*Arum maculatum*), Jack-by-the-hedge or Garlick Mustard (*Alliaria petiolata*) - harbouring Orange Tip butterfly eggs, and Russian Comfrey (*Symphytum X uplandicum*), which could be compared with Tuberous Comfrey (*S. tuberosum*).

We saw the only remains of the original Myreside village, the ruins of a lace-maker's cottage.

This was an altogether fascinating walk and Mr Baillie had obviously done a lot of preparation, even arranging for a Black-cap to sing on cue just where he had forecast.

Munro Dunn

John Muir House, Dunbar and Broxmouth Estate, 8 June

Graham White, who had given a talk on John Muir to the Society in October 1995, is an enthusiast alike for John Muir and for the wildlife potential of Broxmouth Estate. He and fellow members of the John Muir Centre showed fifteen members round the interpretative centre, which occupies the upper floor of the house, in the morning.

* Now considered to be a narrow-leaved form, not given sp,ssp or var status. JM

The estate, which we visited in the afternoon, consists of extensive, neglected policy woodlands, a large loch, a canalized stream and various estate buildings, including an ice-house, and a large abandoned walled garden and orangery. The estate belongs to the nearby cement works.

Mr White is keen to have a proper wildlife survey conducted.

Munro Dunn

The North Pennines Weekend, 14-17 June

Friday, 14 June Some chose the A68, others the A7, but whatever the route, twenty eight members successfully navigated their way to Barhaugh Hall Hotel (NY696512) in time for dinner in beautiful sunshine. Most sported the new ENHS sweatshirts, in a variety of attractive colours.

Even after David Adamson's briefing about the weekend programme, there was still time to walk in the evening light along the road to Kirkhope Church, or down to the river - the South Tyne - through meadows bright with buttercups, to see Oystercatchers, Grey Wagtails and a Dipper, and an early glimpse of Spring Sandwort.

Saturday, 15 June Another glorious day which saw us cross the County Boundary into County Durham (County of Prince Bishops, the sign at the roadside reminded us), and so on to the area around Middleton-in-Teesdale, famous for its unique limestone flora, many of which were readily accessible by the River Tees at Low Force Gorge.

The botanists were soon enthusing over their finds, scrambling over rocks, and, as always, causing the party to spread out along a long stretch of the river. Consequently, the party lunched at a variety of spots and later a confusion of paths led to the temporary 'mislaying' of Margaret Little. The mild panic which this caused was, however, soon allayed; she had simply retreated into deeper shade and taken a nap.

A walk of several miles up-river to High Force waterfall was started but completed by few. The day was so warm that ice-cream - which was unobtainable - and cold drinks held more appeal, with canned Dandelion and Burdock an interesting local taste. Suitably revived, one car load, having reported some interesting Ladybirds, opted to return by Cow Green Reservoir and tramp the concrete road to see the Spring Gentians (caged in a fenced-off area to protect them from the sheep; a sorry, if interesting, sight).

After another excellent dinner at which we were joined by Donald and Kathleen Manson, now living in Harrogate, several cars were driven down to a small local Nature Reserve. It was very midgy, but Alpine Pennycress was there as well as Helleborine leaves in quantity, but no flowers.

Perhaps I should mention that we had the hotel to ourselves, apart from a slightly bemused couple from Holland, so late evening gatherings in the lounge led to a good deal of hilarity and reminiscing - just as well that those with rooms directly above were happy participants. Members preferring a hot drink found the dispensing machine a trifle wayward, all part of a water system that left those on the second floor having to show some ingenuity to avoid being either scalded or left without any water at all.

Sunday, 16 June Again, on a glorious morning, we set off through Alston, this time to Hagg's Bank, where old lead mining spoilheaps gave more excellent botanizing, with several rarities being found. From there we went to Killhope Mining Museum and lunch, after which we made our way through delightful countryside to Thortergill, with its unusual tea-room in a garden and a river walk reached by a path through a meadow of tall Oat-grasses, at their best at this time of year.

That evening was our last and nearly everyone came out for a circular walk beginning at the stile at the bottom of the garden. One lady bird-watcher had been going out hopefully each evening and the Tawny Owl she had seen previously turned out for us.

Monday, 17 June The party broke up after breakfast as members decided individually what to do on their route back to Edinburgh. The National Trust property at Allan Bank near Haydon Bridge was suggested as worth a visit; and so it proved, for it provided river and woodland walks as well as a little tarn high among the trees. Still the weather remained perfect.

Thanks are certainly due to David Adamson and Sarah for organizing such a memorable weekend. The joyful laughter of Jennifer and Patrick also added to the happy family atmosphere.

Jean Murray

The Botany of Upper Teesdale Upper Teesdale has a very interesting mixture of plants. It is pretty close to the middle of Britain in terms of latitude, and hence an area of overlap for plants with a northern and plants with a southern distribution. It is also relatively high, with a good deal of limestone and a variety of mineral deposits including lead. So the plants include arctic alpines, calcicoles (lime-lovers), species tolerant of heavy metals and a variety of herbs of meadow, scrub and grassland. Many of these plants were seen during the weekend, though not all of them were in flower.

A quick visit to the River South Tyne on the evening of our arrival revealed clumps of Spring Sandwort (*Minuartia verna*), Thrift (*Armeria maritima*), and Scurvy-grass (*Cochlearia officinalis*). The Sandwort (which is found in small quantities on Arthur's Seat) proved to be abundant in the area, for it is a lime-lover which is also tolerant of heavy metals and can therefore grow on lead spoil. The other two plants have a montane-maritime distribution, as does Sea Plantain (*Plantago maritima*) which we saw later in the week. It is believed that such plants were once more widespread, were then displaced by forest, and were left hanging on in two very different, but very harsh environments.

The next day saw everyone at Low Force on the River Tees. Crossing the river at Winch Bridge we immediately came upon some of the lime-loving rarities for which the area is noted; on the sunny side, Shrubby Cinquefoil (*Potentilla fruticosa*) with Goldenrod (*Solidago virgaurea*) and a fine specimen of Early Purple Orchid (*Orchis mascula*); on the shady side Birdseye Primrose (*Primula farinosa*) with Butterwort (*Pinguicula vulgaris*); and everywhere tufts of Blue Moor Grass (*Sesleria caerulea*).

Shrubby Cinquefoil is not an unfamiliar plant since it is one of the few native species which has found its way to the Garden Centres, and is frequently planted. In the wild, however, it is known only from two areas in the north of England, and from the Burren in Ireland. Birdseye Primrose is a continental mountain species found on high-level limestone in the north of England. Like the endemic Scottish Primrose (*Primula scotica*) it is pink with farinose (mealy) leaves, but it is about twice the size of its Scottish cousin and clear pink rather than purple-pink.

The Blue Moor Grass (which has a small oval spike, blueish when young) is one of a number of calcicole grasses found in the area. Later we saw Quaking Grass (*Briza media*), the one grass most people know, Yellow Oat Grass (*Trisetum flavescens*) and both Downy and Meadow Oat Grass (*Helictotrichon pubescens* and *H. pratense*). The latter are tall handsome grasses with large, branched, well-awned spikelets, and one of them, the Meadow Oat, is familiar from Arthur's Seat.

Along the river bank, colourful patches of tall vegetation included Globeflower (*Trollius europeae*), Wood Cranesbill (*Geranium sylvaticum*), and the distinctive leaves of Great Burnet (*Sanguisorba officinalis*) and Saw-wort (*Serratula tinctoria*), an interesting example of the north-south cross-over. For Globeflower and Wood Cranesbill are both plants with a northern distribution in Britain, found in lowland woodland and upland meadows, and frequently on rich herbaceous cliff-ledges in the Highlands. Great Burnet and Saw-wort by contrast are southern



Melancholy Thistle

Common Knapweed

Saw-wort
(with saw-edged leaves)

plants, barely getting into Scotland, and I had to make a return visit later to see them in flower - by which time another northerner, Melancholy Thistle (*Cirsium heterophyllum*) and another southerner, Flat Sedge (*Blysmus compressus*) were also blooming. Melancholy Thistle and Saw-wort both have purple Knapweed-like flowers, those of the Thistle being larger and more substantial than those of the Common Knapweed or Hardhead (*Centaurea nigra*), while those of Saw-wort are smaller and daintier. It is the leaves of Saw-wort which give it its name - deeply lobed with saw-like teeth along the edges.

The most common yellow daisy in the area was Rough Hawkbit (*Leontodon hispidus*). It is a lime-lover with a southern distribution, though it does occur in suitable habitats in the Lothians. It is distinguished from the widespread and superficially similar Catsear (*Hypochoeris radicata*) by the fact that it has an unbranched, very hairy stem, and leaves covered with forked hairs.

A number of familiar alpine plants were growing beside the river, and species noted during the visit included Northern Bedstraw (*Galium boreale*), Fairy or Purging Flax (*Linum catharticum*), Alpine Bistort (*Persicaria vivipara*), Mountain Pansy (*Viola lutea*), Mossy Saxifrage (*Saxifraga hypnoides*), Green Spleenwort (*Asplenium trichomenes-ramosum*) and Stone Bramble (*Rubus saxatilis*). A round trip on the last day from Langdon Beck, past Falcon Clints to the spectacular Cauldron Snout, and back via Cow Green added Yellow Saxifrage (*Saxifraga aizoides*), and an assortment of sedges including Separate Sedge (*Carex dioica*), and Hair Sedge (*Carex capillaris*), Hoary Whitlow Grass (*Draba incana*), Lesser Clubmoss (*Selaginella selaginoides*) and a limestone Bedstraw, probably *Galium sternerii*. (The 1965 booklet on Upper Teesdale by D H Valentine mentions *Galium pumilum*, which is very similar but according to Stace in New British Flora, is found only south of a line from the Severn to the Humber).

One of Teesdale's most famous plants, Spring Gentian (*Gentiana verna*), was seen only in an enclosure at Cow Green. Spring Gentian is an alpine not found elsewhere in Britain, though like Shrubby Cinquefoil it grows on the Burren. Elsewhere it is a southern species found in central Europe to 3000 metres, often growing with Birdeye Primrose. By contrast, the tiny Alpine Gentian (*Gentian nivalis*), which is found in Scotland but not in England, is an arctic species more rarely found on mountains in central Europe.

The lead-tolerant plants formed another interesting group, which we had the opportunity to study at Hags Bank, an old lead mine, now a nature reserve. There were enormous quantities of Spring Sandwort, accompanied by Scurvy-grass and Alpine Pennycress (*Thlaspi caerulescens*), the latter a rarity in Scotland, perhaps because of its preference for limestone contaminated by lead or zinc. Great drifts of Mountain Pansy, all shades from yellow to purple, revealed that this too is tolerant of heavy metals. Other interesting plants at the site included Moonwort (*Botrychium lunaria*), and on some low cliffs, Small Scabious (*Scabiosa columbaria*) still in bud. The latter is another southern lime-lover, just reaching into southern Scotland, and looking like a miniature Field Scabious (*Knautia arvensis*).

Altogether it was a most interesting visit, revealing that the high Scottish mountains are not the only alpine refuges in Britain. For it is believed that the rare arctic-alpines now found scattered in upland and mountain areas were once widespread over the whole of Britain. These were the plants which colonized the land in the wake of retreating glaciers some 15000 years ago, only to be displaced in turn by scrub and forest and left high and dry in a few areas where conditions were suitable and trees could not easily colonize - mountains, cliffs, upland limestone, riverbanks and the seaside. Presumably conditions in the Scottish Highlands were too severe for some of the plants of Upper Teesdale, but often it was probably just a matter of luck which plants managed to survive where.

J Muscott

Lead Mining in the North Pennines. Lead has been mined in the North Pennines at least since Roman times. In the eighteenth and nineteenth centuries miners would co-operate in small partnerships, controlled by large companies, to prospect and mine the vertical seams of lead ore. The ore was often found in stream beds, letting the prospectors know that a seam was present further upstream. Horizontal tunnels were excavated until the vertical vein of lead-bearing rock was reached. The miners then worked the ceiling to extract the ore. The Beaumont Company and London Lead Company dominated the industry by the 1840's, the

former being owned by wealthy landowners who had mining rights. Some mines employed up to 200 people, but 30 to 40 was more common. Looking back to the 1840's the contrast in fortunes between the miners and the owners of the companies is difficult to comprehend. The wealthiest 'commoner' in England was one of the owners but the miners were treated worse than the pit horses, sharing their food with vermin, and themselves paying for the tools of their trade, often ending the year in debt to the company when the monthly advances exceeded their piece-rate earnings. Despite relatively short working hours and good holidays, the miners were lucky to live into their forties, for the living conditions were primitive and tuberculosis killed more than did mine accidents. I can only attribute the passive acceptance of their lot (apparently there was only one strike in the nineteenth century) to the strong influence of Methodism and the lack of alternative employment. The 1840's were a time when people could starve to death in Britain, (witness the Irish and western Scottish potato famines), and the grim existence in the Durham leadmines was made more amenable by time spent working on their smallholdings, and at least preferable to the lead poisoning experienced by workers in the smelt mills.

Lead mining was in decline from the late nineteenth century, fading out completely by the time of the First World War, when lead could be obtained more cheaply from abroad. The North Pennine landscape has been slow to heal, and the hillsides will show landforms created by the industry for centuries to come. The narrow, V-shaped gulleys on steep hillsides are 'hushes'. They were created by prospectors who first dammed small streams, then broke the dam so that water removed the top-soil and exposed bedrock, which the miners hoped would contain a vertical seam of lead. The mining removed huge quantities of rock which contained the lead ore. The rocks were broken into smaller chunks which were grouped according to size, then 'jiggled' about in water to separate out the heavier lead ore. 'Washer lads', boys aged from nine or ten up to seventeen, were employed to look for lead ore among the washings. The ore was carried on pack-horse to the smelting mill while the spoil was dumped near the mine. Few plants can tolerate a soil or scree containing lead ore, so the bare spoil heaps stand out as sites of former mines.

At Killhope and, in 1966, Nenthead, industrial museums have been created to describe the history of this industry, particularly in the last century. Killhope is symbolized by the huge wheel, turned by water from an overhead channel. These wheels were used to remove water from mines and as part of the separation process. From Killhope you can look across the narrow valley to the Peart cottage where a miner's family lived over 100 years ago. It is surrounded by the smallholding of ground by which the mining family supplemented the meagre earnings from the mine. Further down the valley is the old gunpowder and explosives cottage, well away from the mine. Above the mine is the reservoir and series of ditches and channels that ensured a constant power for the huge wheel.

Some miles to the north, in east Allendale, there was a seven mile long tunnel intended to link the Allenheads mine to the smelting mill. The tunnel reputedly cost a guinea an inch to build and, when the northern and southern halves met in the middle, they were out by only one inch. This was the Channel Tunnel of its day but it was never used because the Allenheads mine closed before completion.

Today, packhorse tracks, smelt mill flues and chimneys, hushes, mine reservoirs, spoil heaps, and the smallholdings, as well as place names like Dirt Pot and Slaggy Hill, survive, all testifying to the existence and impact of the North Pennines lead industry.

David Adamson

Ladybirds of the North Pennines in June. Not to be seen to best advantage on fence posts this time (see the 1995 Journal), for the best pickings seemed to be on nettles, hawthorn and other haunts of aphids.

Seven-spot ladybirds were abundant on a wide variety of plants and did not appear to be too demanding of warmth. The equally abundant 14-spot (tiny with black and yellow pattern) seems to be a sun worshipper, only appearing as the day warmed and continuing to sunbathe until the evening. Then they disappear, some into curled-up leaves and the others ? - who knows, but perhaps to roost at the bases of plants. The other smaller ladybirds seem to have a similar behaviour pattern. The 14-spot is not seen in the Edinburgh area.

Other species seen included the Cream-spot and several varieties of the 10-spot and 2-spot. One Cream-spot was seen on a horse, just below its lip - not its usual habitat!

It was gratifying to see the interest being taken by members in ladybirds.

Painted Lady Influx. During the weekend, which was fine and warm, we were able to witness many sightings of the reported influx of both Painted Lady butterfly and Silver-Y moth.

Insect life was plentiful and especially noticeable were Green-veined White, Small White, Orange Tip, Red Admiral and Small Tortoiseshell butterflies. Red Damselflies were seen by one stream as well as a strikingly coloured Green Tiger Beetle.

Sarah Adamson

Bush Estate, 19 June

This 'grass evening' began in a woodland glade, followed a grassy path down to Glencorse ('Glen of the corpse'), along a lowland meadow below a wooded bank, then back to the Bush Estate traversing a mixed woodland before returning through landscaped grounds past Bush House.

The woodland glade was dominated by shade-tolerant grasses, Red Fescue (*Festuca rubra*) and Creeping Soft Grass (*Holcus mollis*), not in flower but showing its typical hairy nodes on the stems. Here also grew Tufted Hair Grass (*Deschampsia cespitosa*), the strongly tufted grass with dark green, ribbed leaves edged with sharp spines. This grass bears large handsomely branched flower heads. Other grasses growing along the grassy path were the hairy Yorkshire Fog (*Holcus lanatus*), with pink stripes on the basal leaf sheaths, Tall Oat Grass (*Arrhenatherum elatius*) with no hairs and a long awn on the branched inflorescence, Crested Dogstail (*Cynosurus cristatus*) with a 1-sided inflorescence and Meadow Fescue (*Festuca pratensis*), a hairless grass with a branched, multi-flowered inflorescence. Flower heads of the 2-5 flowered, branched Rough- and Smoothed-stalked Meadow Grasses (*Poa trivialis* & *P. pratensis*) were conspicuous along the way.

On the edge of the meadow was another hairy grass with plump multi-flowered spikelets - Soft Brome (*Bromus mollis*). In the mixed woodland adorned with Rhododendrons and a 200-yr old Wellingtonia, the last grass of note was Wood Meadow Grass (*Poa nemoralis*) - sometimes known as 'Heil Hitler Grass' from the way the leaves stick out from the stems.

A brief description of the main flowering characteristics of 25 grasses is given on page 38. Within the 4 groupings of flower heads - spike, spike-like, branched awnless or awned - the grasses are tested in order of flower numbers per spikelet.

The present Bush House was sold by Edinburgh University in 1989. It was built by the Trotter family in the late 1700's; prior to that the land was owned, drained and planted with trees by Robert Mowbray, Writer to the Signet. The name 'Bush' derives from his connection with the Leith Timber Bush Company.

A further enjoyment of the evening was a close inspection of an Orange-tip Butterfly which attached itself to Eunice Smith!

Graham Swift

Tentsmuir, 22 June

The name 'Tentsmuir' derives from the time when shipwrecked Danish invaders erected a make-shift settlement on what was then moorland. Now densely planted, largely with Corsican Pine, heath plants are confined to the dunes, where Heath Speedwell (*Veronica officinalis*) grows with lime-loving Wild Thyme (*Thymus serpyllum*); an intriguing mix symptomatic of this area of East Fife. Just six members explored the stretch of dunes from the car park to Tentsmuir Point, on a warm sunny day. Was it because of the small group and the weather that we successfully located the rare Coralroot Orchid (*Corallorhiza trifida*)? Two plants were growing in a birch-invaded damp hollow on the edge of the dune slack at the Point.

The poisonous Hemlock Water Dropwort (*Oenanthe crocata*) lines the fresh-water edges of the Kinshaldy Burn. Where the burn runs through the beach, Celery-leaved Buttercup (*Ranunculus sceleratus*), Water Forget-me-not (*Myosotis scorpioides*), Watercress (*Rorippa nasturtium-aquaticum* agg.)[†], Water Chickweed (*Myosoton aquaticum*) and the very tall Water Dock (*Rumex hydrolapathum*) adorn the water's edge. Farther along the beach, in the vicinity of the yellow-flowered Tree Lupin (*Lupinus arboreus*), are numerous colonies of Purple Milkvetch (*Astragalus danicus*), Restharrow (*Ononis repens*) and Common Milkwort (*Polygala vulgaris*), along with the unusual Small-leaved Timothy (*Phleum bertolinii*).

At the Point and the fenced-off Nature Reserve area, we found the diminutive Small

Old name: †*Nasturtium officinale*

Main Flowering Characteristics for Identification of Grasses

<u>Flower-head</u>	<u>Inflorescence (Flower-head)</u>	<u>Spikelet</u>
Spike		
Perennial ryegrass	2-rows, edge on.	Many-flo'd, awnless
Italian ryegrass	2-rows, edge on	Many flo'd, awned
Couch grass	2-rows, face on	Many flo'd
		Pointed lemma or awned
Spike-like		
Timothy	Dense, cylindrical	1-flo'd, glume stiffly pointed (short-awn)
Meadow foxtail	Dense cylindrical	1-flo'd, awned
Crested dogstail	Dense, 1-sided	Oblong/ovate clusters, 2-5 flowers (fertile spikelet)
Sweet Vernal	Dense/loose, ovate or cylindrical	3-flo'd, brownish, hairy, awned
Panicle (branched)		
(a) Awnless		
Bent grass		
Common	Erect, Ovate/oblong Open, green or purplish	1-flo'd, numerous, small slender
Creeping	Erect, narrow, oblong open/contracted, green or purplish	1-flo'd, densely clustered, small
Black	Erect, oblong/ovate	1-flo'd, very numerous, small
Meadow grass		
Annual	Ovate/triangular, open	3-10 flo'd. ovate/oblong
Rough stalked	Ovate/oblong, open	2-4 flo'd, ovate/oblong
Smooth-stalked	Ovate/oblong, open	2-5 flo'd, ovate/oblong
Cocksfoot	Erect, 1-sided clustered branches	2-5 flo'd, clustered, at branch ends
Meadow fescue	Loose, drooping or erect, narrow/ovate, +/- 1-sided	Many flo'd, cylindrical/narrow
Tall fescue	Loose, erect or drooping, narrow/ovate, large	Many-flo'd, oblong
Sheep's fescue	Erect, narrow/oblong, +/- 1-sided	Many-flo'd, oblong, awn-tipped lemmas
Panicle		
(b) Awned		
Red fescue	Erect or drooping, contracted, lowest branches paired	Many-flo'd, oblong, usually awned
Tall oat-grass	Erect or drooping, loose/rather dense, green or purplish, shining	2-flo'd, long bent awn
Yorkshire fog	Erect, dense/loose, pale green or purplish	2-flo'd, hooked awn when dry, not extending beyond glume
Creeping soft-grass	Erect, compact/loose, pale grey or purplish	2-flo'd, bent awn
Tufted hair-grass	Erect, long slender branches	2-flo'd, small clusters, straight awn
Wavy hair-grass	Erect, spreading, purplish or silvery	2-flo'd, loosely scattered, bent awn
Soft brome	Erect or drooping, greyish/green or purplish	Many flo'd, ovate/oblong, hairy, long awns
Sterile brome	Drooping, loose, green or purplish	Many flo'd, drooping, oblong, very long awns

Cudweed (*Filago minima*), Heath Groundsel (*Senecio sylvaticus*), Common Twayblade (*Listera ovata*) - and the Coralroot Orchid!

Inspired by the latter find, we explored farther up the Powie Bum to a well hidden pond, noting here or on the way Northern Marsh Orchid (*Dactylorhiza purpurella*), Common Water Crowfoot (*Ranunculus aquatilis*), Marsh Cinquefoil (*Potentilla palustris*), Marsh Pennywort (*Hydrocotyle vulgaris*), Lesser Spearwort (*Ranunculus flammula*), Marsh Horsetail (*Equisetum palustre*) and Creeping Lady's Tresses (*Goodyera repens*).

Despite the warm weather, few insects were on the wing. The few seen were Large Red Damselflies, Small Copper and Painted Lady Butterflies and the attractive Cinnabar Moth.

Graham Swift

Musselburgh, 26 June

The area known as 'Musselburgh Lagoons' is better known to the bird-watchers, especially during winter and not much attention is normally given to what grows there. 'The Lagoons' form a unique man-made habitat. Four great basins were scooped out of waste ground, then filled with coal ash piped with water from Cockenzie Power Station. Three lagoons are now filled, top-soil scattered over the surface and a grass/clover mix planted. The last lagoon, in which the old seawall is now buried, where cormorants, sea ducks and gulls used to roost, is now being topped up before it too becomes a grassy meadow. Shelter belts of trees are becoming established and a new plantation has just been dug in, using coloniser species which grow well on poor soil; viz Birch, Alder, Aspen, and Willow with Whitebeam, Grey Poplar, some Holly and a few conifers mixed in.

Ten members of the Society examined the plants. It was a fine sunny evening and we were not disappointed. There were four vetches, five trefoils, three geraniums, two poppies and one or two uncommon species. We set off from Goose Green to walk beside a hay meadow of silky grasses and scented White Clover. Here we found the species of Vetch - Bush Vetch (*Vicia sepium*), Common Vetch (*V sativa*), Tufted Vetch (*V cracca*), Hairy Tare (*V hirsuta*), - and Lucerne (*Medicago sativa*) as well as the Trefoils - Greater Birdsfoot Trefoil (*Lotus uliginosus*), Birdsfoot Trefoil (*L corniculatus*), Lesser Trefoil (*Trifolium[†] dubium*), Hop Trefoil (*T^{††} campestre*), and Hare's-foot Trefoil (*T[†] arvense*). Several weeds of cultivation grew beside the path; Knotgrass or Coral-necklace (*Illecebrum verticillatum*), Pineapple Weed (*Matricaria discoedia*), Common Fumitory (*Fumaria officinalis*), and Sterile Brome (*Anisantha sterilis^{††}*). Lovely White Campion (*Silene latifolia^{†††}*), Common Poppy (*Papaver rhoeas*), Long-headed Poppy (*P dubium*), Cow Parsley (*Anthriscus sylvestris*) and poisonous Hemlock (*Conium maculatum*) were noted. Among the *Compositae* we found Catsear (*Hypochoeris radicata*), Smooth Hawksbeard (*Crepis capillaris*) and Oxford Ragwort (*Senecio squalidus*) which delights in the cindery habitat reminiscent of its native Mount Etna in Sicily. Turning left along the path by a wired-off maintenance station we found a hairy *Hieracium*, the Scottish Hawkweed (*H lingulatum*). On disturbed ground there was Weld (*Reseda luteola*), Eastern Rocket (*Sisymbrium orientale*), Heath Groundsel (*Senecio sylvaticus*), Hedge Mustard (*Sisymbrium officinale*) and one of the Plantains, *Plantago major*. We walked to Seafeld boating pond, where in the uncut margins of the playing field we found Meadow Cranesbill (*Geranium pratense*) in flower, Cut-leaved Cranesbill (*Geranium dissectum*) and Fox-and-cubs (*Hieracium auranticum*). Crossing the path we were pleased to find Sand Spurrey (*Spergularia rubra*) and the other three Plantains *Plantago lanceolata*, *P maritima* and *P coronopus*, Buck's-horn Plantain, as well as Tall Rocket (*Sisymbrium altissimum*) and Common Orache (*Atriplex patula*).

We saw a Painted Lady Butterfly, the Laverock* sang to us all evening and the Linty** flew overhead quite frequently. Oystercatcher, gulls and a few terns roosted on the last lagoon. On our return to the cars some of us crossed Goose Green to a patch of unmown waste ground where we found Dovesfoot Cranesbill (*Geranium molle*), Horse Radish (*Armoracia rusticana*), a garden throw-out and the star find of the evening, a lovely Musk Thistle (*Carduus nutans*).

It was an enjoyable and rewarding evening.

Mary Robertson

Earlsferry, 29 June

The area explored on this outing was a short stretch of coastline between Chapel Ness and

Old names: [†]*Lotus* ^{††}*Bromus sterilis* ^{†††}*Silene alba*.

* Laverock = Skylark **Linty = Linnet

Kincraig Point. With the whole stretch of coastline between East Wemyss and Anstruther designated an SSSI we could expect to find something to interest . And we did!

The coastline between Largo Bay and St Monance shows exceptional (in some respects unrivalled) exposures of volcanic vents and intrusions which demonstrate *par excellence* the relationship between igneous rocks and the strata into which they are emplaced. Many of the vents contain fragments of unusual rock types, rich in magnesium and iron. The geologists interpret this as samples derived from beneath the earth's crust and brought up many kilometres to present surface levels by the ascent of magma which caused the volcanic activity. As such they are of greatest significance for the light they throw on the nature of the interior of the earth during the period of volcanic activity. Kincraig Point has an exceptionally well displayed sequence of four raised beaches. As erosional landforms they are exceptional among the raised shorelines in E Scotland and their prominence relates to the weak nature of the bedrock. In addition the site also includes an intertidal rock platform.

Unfortunately for those particularly interested in the geology the tide was too far in to allow us to walk round the shore and view the features from their best side. But appetites have been whetted for a future visit.

Interesting plants have been recorded along this coast including a colony of Pyramidal Orchid (*Anacamptis pyramidalis*) and large quantities of the Common Rockrose (*Helianthemum nummularium*), the food plant for one of the few colonies of the rare Northern Brown Argus butterfly (*Aricia agestis ataxerces*).

For the botanists there was plenty to see (and to debate!). We started on base-rich grassland overlooking the sea near the remains of the old 'slipper chapel'. Here grow some interesting grasses which like calcareous soil; such as Crested Hair-grass (*Koeleria gracilis*), Meadow Oat-grass (*Helictotrichon pratense*), Yellow Oat-grass (*Trisetum flavescens*) and on the barer sandy patches, tufts of Silvery Hair-grass (*Aira caryophyllea*). Among the other plants we found were masses of Alexanders (*Smyrnium olusatrum*), Thyme (*Thymus polytrichus*)[†], Purple Milkvetch (*Astragalus danica*), Kidney Vetch (*Anthyllis vulneraria*) and Agrimony (*Agrimonia eupatoria*). Near the sea where the salt-spray normally reaches, along with the Thrift (*Armeria maritima*), Scurvy-grass (*Cochlearia officinalis*), Sea Sandwort (*Honkenya peploides*), Sea Plantain (*Plantago maritima*) and Buck's-horn Plantain (*P. cornopus*) there was a good spread of Scots Lovage (*Ligusticum scoticum*). And there were Campions! Red and White Champion (*Silene dioica* & *S. latifolia*)^{††} and hybrids in all shades of pink grew in the grass. The Bladder Champion (*S. vulgaris*) seemed to be in a real mess. On the roadside were upright plants of the species and on the shore prostrate plants with smaller leaves and few-flowered clusters more like the descriptions of Sea Champion (*S. uniflora*). Others illustrated how variable a plant such as *S. vulgaris* (?) can be, even within a small area.

On the more sandy area along the golf course we had fun with *Crucifers*. Hoary Cress (*Lepidium draba*)^{†††}, a weed from S Europe (the original seed said to have arrived in the mattresses of prisoners of war in Napoleonic times) grew alongside *Amsinckia macrantha*, a weed from N America and Annual Wall Rocket (*Diploxys muralis*), another introduction to Britain from Europe. Also in flower were Slender Thistle (*Carduus tenuiflorus*) and Lesser Meadow Rue (*Thalictrum minus*). By lunchtime the Goatsbeard (*Tragopogon pratensis* ssp *minor*) had 'gone to bed'.

Once clear of the golf course we came to the most colourful area. On the grassy slopes were low-growing Burnet Roses (*Rosa pimpinellifolia*) and brightly coloured Bloody Cranesbill (*Geranium sanguineum*) sometimes intertwined with Meadow Cranesbill (*G. pratense*), lots of Restharrow (*Ononis repens*) and some spikes of Vipers Bugloss (*Echium vulgare*). The Large Knapweed (*Centaurea scabiosa*) was just coming into flower. And there were lovely clumps of Rockrose (*Helianthemum nummularium*), but the Northern Brown Argus were not yet flying. One plant which is recorded for this area we did not find - Wild Liquorice (*Astragalus glycyphyllos*).

On the stretch of shore near Kincraig Point, we found one of the rarer grasses of coastal sands and shingle viz. Stiff Fern- or Sand-grass (*Catapodium marinum*). Harebell (*Campanula rotundifolia*) clung to sandy banks and Bugloss (*Lycopsis arvensis*) was flowering near the remains of an Eider's nest; by this time it was a heap of down with an eggshell nearby, but when we carried out a recce earlier we almost stood on the mother bird which did not move one inch as we approached. With the tide in we had no chance of looking for Yellow Horned Poppy (*Glaucium flavum*) at the foot of the cliffs. Nor could anyone attempt the Chain

Walk although some of the more adventurous members of the party did have a look round the corner of the cliff.

There was not enough sun to encourage butterflies, though we did see a few Painted Ladies and Meadow Browns later in the afternoon.

Though the flowers were rather good, one of the highlights of the day was provided by the birds. As we approached the shore near the Slipper Chapel, Sandwich Terns put on a wonderful display. We saw plenty of Eider including several 'creches' with two females looking after 6-8 young. Other birds included Grey Heron, Red-breasted Merganser, Greater Black-backed Gull, Cormorant, Kestrel, and Stonechat.

Late afternoon brought another diving display; this time a much noisier one as a flock of Gannet plopped into the sea to feed.

In all, it was a good day at the sea-side which I hope all 14 members enjoyed.

Lyn Blades

Bawsinch Reserve, 3 July

Members had learned with regret that Colin McLean who was to have led this outing had been injured in a motor vehicle accident. We were grateful to Charles Rawcliffe who stood in for him and showed the party round the Reserve.

Bawsinch Reserve (S.W.T.) on the southern shore of Duddingston Loch is more extensive than one at first imagines, having meadows and woodland as well as the loch to provide interest. Even by the path leading to our first stop at the Wild Flower Meadow we passed a very fine example of Melancholy Thistle (*Cirsium heterophyllum*)[†]. The meadow was originally planted but now looks completely natural. Masses of Ox-eye Daisy (*Leucanthemum vulgare*)^{††} and Birdsfoot Trefoil (*Lotus corniculatus*) immediately caught the eye, but looking more closely we saw the less common Long-headed Poppy (*Papaver dubium*) and Sainfoin (*Onobrychis viciifolia*). Some weeks previously the meadow must have been a mass of yellow as many plants of Cowslip (*Primula veris*) and Yellow Rattle (*Rhinanthus minor*), now in seed, were to be seen in flower. Continuing round the reserve, we saw Dyer's Greenwood (*Genista tinctoria*), Everlasting Pea - both the Broad-leaved (*Lathyrus latifolius*) and the Narrow-leaved (*L. sylvestris*) - Teasel (*Dipsacus fullonum*) and Greater Celandine (*Chelidonium majus*) as well as many common flowers.

There is also a wide variety of trees and we were interested to see an infestation of Ermine Moth caterpillar 'webbing' on Bird Cherry (*Prunus padus*). The most unusual tree was a single Alder Buckthorn (*Frangula alnus*). There were many Wayfaring Trees (*Viburnum lantana*) and also a few Guelder Rose (*Viburnum opulus*). Silver Birch (*Betula pendula*) and Downy Birch (*Betula pubescens*) were growing close together and so could be compared.

A great deal of work goes into the management of the reserve. We were shown how, for example, carpet was laid over Japanese Knotweed (*Fallopia japonica*)^{†††} to stop it taking over (any old carpet would be gratefully received). Next to this a board was lifted to see if the resident Toads were at home. Fortunately they were and we got a good view of them.

A visit to a fox-hole was also an unusual item of interest.

A heavy shower sent us hurrying to the hide and from there we saw many Great Crested Grebe - some with young - while a solitary Dabchick passed just below the hide window. As always there were Tufted Duck, Coot, and Grey Heron to be seen. Among the resident Greylag Geese were a dozen or so Canada Geese. The Mute Swan had cygnets - only two left now out of a larger brood. A pair of Pochard seen in July was an unexpected bonus.

From near the hide, we had good views of Arthur's Seat and Duddingston Village with the reedy banks of the loch in the foreground and the most attractive church behind.

Betty Mitchelhill

Dunbar Common, 6 July

Twenty four members met up at the road's end above Hall's Farm on the northern edge of the Lammernmuir Hills. The track from there is a public Right of Way across the tops to Lauder.

The weather was kind, warm where sheltered from the strong breeze and brightened by occasional sunshine through breaks in the clouds.

The party made its way slowly up a gully or cleuch, down which ran a small burn. The moist ground at the bottom of the gully and the shelter provided by the steep walls ensured a rich collection of plants which provided much interest, while the burn contained insects, frogs

Old names: [†]*Cirsium helenioides* ^{††}*Chrysanthemum leucanthemum* ^{†††}*Polygonum cuspidatum*

and a couple of lizards. Male Fern (*Dryopteris filix-mas*) and Hard Fern (*Blechnum spicant*) were common on the banks and Bracken (*Pteridium aquilium*) was the dominant cover for much of the ascent, dying out towards the open moor where heather and Blaeberry (*Vaccinium myrtillus*) took over. Among the many flowering plants discovered, to me the most unexpected was the presence of a single flower of Ragged Robin (*Lychnis flos-cuculi*).

A scrub of Juniper (*Juniperus communis*) bushes was a most obvious feature of the gully and also of the nearby hillside, mixed with Gorse (*Ulex europaeus*). A few naturally occurring trees were present - Ash and Rowan - while in a few places these had been supplemented by small plantings of the same two species plus *Quercus* sp., possibly the Sessile Oak.

There was little bird-life in the gully (outnumbered by the naturalists?), but above the gully, Whinchat and Meadow Pipit were common and Willow Warblers were obviously in residence. It is a good area for Cuckoo, and Swallows hawk over the moor where they find good pickings of insects. Once on the open moor, Red Grouse were put up and a Snipe was seen and heard.

The party took various routes back, the more hardy types tramping to the local high point, Watch Law, following which, on the open moor, they investigated a couple of isolated, grass-surrounded, piles of stones, questioning whether they were accidental or man-made - and if the latter, debating their possible purpose. No firm conclusions were reached and the return walk down the Right of Way, enabled the party to enjoy the most expansive views over East Lothian and Berwickshire, the Firth of Forth, the Isle of May, the Bass Rock and far across to Fife and Perthshire.

David H Jones

Corstorphine Hill, 10 July

On this outing, the Woodland Officer gave us an overall description of the hill, its management and main points of interest.

Although the hill looks like a natural woodland, it is in fact a man-created landscape, having been planted between 1780 and 1800. Some of the massive beeches are from this time and so are about 200 years old. Before 1780, the hill was used for rough grazing. For many years there was little change in the area but now, due to Dutch Elm disease, it is changing rapidly with up to 100 trees a year being affected. In order to reduce the rate at which the disease spreads, trees are being cut down and the wood removed and burned. We were shown a twig of a tree recently affected and saw how the tissue just below the bark was brown whereas in a healthy tree it would be white. The disease causes the tree to close off xylem tubes, so causing the tree to be starved of water and die.

While it is the policy to remove and burn Elm, no other tree is treated in this way as old and rotting timber makes an attractive habitat for insects, fungi etc. We were shown an ancient beech where for the sake of safety, branches had been cut off, but they and the trunk were left. This attracts woodpeckers as well as smaller creatures.

If left, the gaps created by the removal of the Elm would be invaded by Sycamore. The policy here is to plant Oak and Beech especially, but also some Ash. Left to nature, they would be crowded out by Sycamore or eaten by rabbits. The young trees are therefore protected by spiral tubes, and Sycamores are removed because Oak especially needs light and a large open space.

Turning from management, it was pointed out that the hill is oriented almost directly north-south, and is composed of altered dolerite, smoothed by ice and showing glacial striae. On one of the high points is the Corstorphine Tower (or Clemiston Tower) built in memory of Sir Walter Scott in 1872 on the centenary of his death. It is a five-storeyed tower, and we were fortunate in being allowed to climb it. The view from the top was splendid as we could see in all directions. It was well worth the effort. On the other high point of the hill, where the bedrock is exposed we were shown 'cup and ring' marks. No one is sure of their exact date or origin but it is thought they may have had religious significance.

On the edge of the clearing there was a large area of Climbing Corydalis (*Ceratocapnos claviculata*)[†]. Elsewhere on the hill, we did not examine the flowers, though there were quite a few of the commoner species. Birds were scarce, and only those who were very early at the assembly point saw a Sparrowhawk fly over.

This outing was different from our usual outings, but very interesting nonetheless.

Betty Mitchelhill

Old name: [†]*Corydalis claviculata*

Dunglass, Bilsdean Circuit, 13 July

Botanizing started as soon as our party of 14 left the starting point by a path under the A1 road seawards down Dunglass Dene. Alkanet (*Pentaglottis sempervirens*) and Red Campion (*Silene dioica*) were plentiful; more unusual was a patch of Yellow Figwort (*Scrophularia vernalis*) in a new site for this plant in Lothian. A huge bank of Honeysuckle in full flower draped the cliff of the raised beach along which we were walking, with Woodrush and Polypody edging the steep drop to the burn. The water-carved walls were more clearly seen in the low dene, where we chanced to see a Shrew scurrying round a rock-base, and also found the corpse of a fledgling Chaffinch. The Sea Buckthorn area at the mouth of the dene provided a few items of interest, though depredation from a large rabbit warren had left little of groundcover. The uncommon goosefoot Good King Henry (*Chenopodium bonus-henricus*) grew beside the path, along with the scanty remains of Bur Chervil (*Anthriscus caucalis*) and several species of Thistle; a large clump of Hemp Agrimony (*Eupatorium cannabinum*) was past its best, and a bracket fungus peculiar to Sea Buckthorn was present on several of the bushes.

As we made our way along the shore, there was plenty of evidence of a changing coast-line, with recent rock falls, landslip and new erosion into cliffs of sedimentary rocks. When we arrived at the mouth of the Bilsdean, some of the party decided to stay in the sunshine in this area while the rest of us scrambled further along the rocks in search of geological interest. Dark reddish rocks contained fossilized remains of stems or roots of ancient trees and mosses; a huge block of tufa, apparently fallen from the site of a spring in limestone high above the shore, was honey-combed with fossil fragments and present-day insects. The sandstone cliffs included smooth walls strikingly decorated with ancient ripple and current marks; they seemed like works of art. We turned a corner to be confronted by two fine rock arches through the red sandstone. There used to be a stack just off-shore here, marked "Standalone" in older maps. We sat on flat ledges here for a few minutes watching the 'House' Martins which here continue to use cliff ledges instead of eaves, below which to hang their well-camouflaged nests.

We returned over the rocks to join the rest of the party at lunch, then set off up Bilsdean. The waterfall here was little more than a trickle, but in this vicinity a few specimens of uncommon *Symphytum asperum* demonstrated the aptness of the English name Rough Comfrey. Hartstongue fern was plentiful in this dene. Across the A1 and into Dunglass estate, we walked through mixed woodland, heard Blackcap song, found a dead Hedgehog and saw a good variety of woodland flora.

A well-preserved summer house was a landmark in the ridge at French Camp, and we picked up a large Toad in the grass at this point. Continuing high above Dunglass Dene, with fine views of the Lammermuir countryside, we eventually circled back to the estate drive, which led past the small lake in which were Mallard, Moorhen and Little Grebe. An area here was overrun by the giant Himalayan Knotweed (*Persicaria wallichii*)[†]. A short detour allowed us to explore the 15th century Collegiate Church of Dunglass before we left by the lodge gates a few yards from our starting point.

We noted a number of unusual trees in the estate, including Walnut (laden with unripe nuts), Hornbeam, Box, Wellingtonia, Portugal and Cherry Laurel and a fine Arbutus or Strawberry Tree. We had covered such a range of habitats in the course of a very pleasant walk that the list of plants was lengthy.

Margaret Watson

River Esk Musselburgh, 17 July

For this outing we had a perfect warm sunny evening. Starting at the medieval bridge we made our way upstream. The path along the eastern bank of the River Esk goes as far as Whitecraig but we went only about a third of the way.

Although we were looking at the commoner flowers we found it interesting to see similar species growing close to one other. We were able to compare Ox-eye Daisy or Gowans (*Leucanthemum vulgare*), Scentless Mayweed (*Tripleurospermum inodorum*) and Feverfew (*Tanacetum parthenium*); also Greater Willowherb (*Epilobium hirsutum*) and Rosebay Willowherb (*Chamerion angustifolium*). There were also many different kinds of Thistle.

Such had been the growth during the previous few weeks that for most of the way we had to remain on the main track as the path closer to the river was very overgrown. The Himalayan Balsam (*Impatiens glandulifera*) was in places over five feet high.

Just past the weir we were pleased to find a very fine Hornbeam (*Carpinus betulus*) covered in fruit. The distinctive three-lobed bracts of the fruiting heads made the tree easy to identify but we were surprised to find this as early in the year as July.

Betty Mitchelhill

Tailend Moss, 20 July

On one of the hottest, sunniest days of summer, some eleven members joined Bob and Betty Smith to be introduced to dragonflies. Damselflies were spotted amongst the vegetation surrounding the nearest pond. Expertise was soon gained at wielding a 'butterfly net', carefully extracting the captured insect, handling it without damage and examining it closely with a hand lens before releasing it unharmed. Diagnostic features were noted and confidence gained so that everyone could identify the Azure Damselfly, *Coenagrion puella*; the Large Red Damselfly, *Pyrhosoma nymphula*; the Blue-tailed Damselfly, *Ischnura elegans*; and the Emerald Damselfly, *Lestes sponsa*. There was however no great activity over the water. Perhaps it was too hot even for the dragonflies. A Common Hawker, *Aeshna juncea*, flew past and several of us made unsuccessful attempts to net it while it was foraging for insects in a sheltered clearing at the edge of the wood.

Bob demonstrated the use of the pond net to collect aquatic invertebrates among the submerged vegetation. As well as larvae of the various species of damselfly, several different species of water beetles, water boatmen, water fleas (which are not insects at all, but tiny crustaceans), mites, snails and flatworms were noted.

After lunch, we walked along the rough track to the far end of the reserve to look at the pools there. At a large, deep pond, males of the Common Blue Damselfly, *Enallagma cyathigerum* were spotted through binoculars perched on *Potamogeton natans* floating in the water. This apparent 'loafing' is typical of the species. The males were waiting the arrival of potential mates, often from beneath the water where they have been egg-laying into the tissues of the submerged vegetation.

Great excitement was occasioned by the arrival, at another pond, of a male Common Hawker dragonfly that patrolled the edges of the water looking for an egg-laying female. Usually this is the situation where a dragonfly is most easily caught. A slight mis-judgement by the would-be catcher and the quarry landed in the water instead of in the net. Rescue was at hand to provide a perch on the handle of the pond-net, but with a great effort, the dragonfly arched its thorax above the water and pulled its wings clear of the surface and flew off, none the worse.

The pond net was used to trawl for larvae and, after finding several medium to full-sized Common Hawker larvae measuring up to 42 mm, the pond-netters came up with several tiny larvae of the same species measuring only 2.5 mm. The latter had hatched only a week or so earlier from eggs laid the previous summer. The largest larva was already 3 years old and ready to emerge as a winged insect.

We are grateful to the SWT for allowing us to get on such familiar terms with the dragonflies of Tailend Moss.

Betty Smith

Roslin, 24 July

On a pleasant July evening, twelve members plus four other interested individuals, who had come in response to our publicity, met at Roslin. The subject of the outing had been scheduled as 'Spiders', but unfortunately our spider expert was unable to come because of family illness. Instead, Miss Betty Mitchelhill took over to lead a general interest walk into the Glen.

We started from Rosslyn Chapel, which was founded in 1446 by Sir William St Clair, or Sinclair, who was the last Sinclair Prince of Orkney. It is built entirely of sandstone, quarried locally, and is world famous for its 'Apprentice Pillar'.

We made our way down to Rosslyn Castle to view its interesting remains. Here we saw Jackdaws flying round the Castle and also in a Larch tree. Harebell (*Campanula rotundifolia*) and Ivy-leaved Toadflax (*Cymbalaria muralis*) were growing in the wall of the entrance bridge. Proceeding down towards the River North Esk, and choosing an upper path, we followed the river through woods and meadows.

Among the more interesting finds were a number of Common Spotted Orchid (*Dactylorhiza fuchsii*), standing tall with long spikes; an expanse of Giant Horsetail (*Equisetum*

telmatia); green fruits of Lords and Ladies (*Arum maculatum*); Enchanter's Nightshade (*Circaea lutetiana*); Wallflower (*Erysimum cheiri*)[†]; Eyebright (*Euphrasia officinalis*); Common Cow-wheat (*Melampyrum pratense*); Meadow Vetchling (*Lathyrus pratensis*); and Hazel nuts forming (*Corylus avellana*). Good specimens of Jew's Ear Fungus (*Auricularia auricula-judae*) were found on a fallen tree trunk. We also saw an interesting line of old Yew trees (*Taxus baccata*) alongside an ancient boundary wall. Bird-life was noticeably scarce, but one member had a narrow escape when an egg fell from a tree and smashed at her feet.

The entire party was grateful to Miss Mitchelhill for rescuing the evening and leading an interesting outing at very short notice.

Margaret Jamieson

Loch Lubnaig, 27 July

Twenty-three members visited Loch Lubnaig on a dry, sunny day. The main party walked up the west side of the loch from the south to Bonnie Strathyre, whereas the smaller 'B' party were ably led by Dick Hunter on a shorter circular walk around Strathyre.

The route on the west side of the loch follows the alignment of the disused railway line along the foot of Ben Ledi, which means the mountain of the gentle slope. There were superb views of the loch and the surrounding hills, especially from the north end of the loch where the party left the line of the railway and climbed a track to a vantage point from where the loch was viewed, I think this is one of the best views in Scotland!

There were many items of interest which kept the party in a quandary as to what they should look at. Should they examine the butterflies - Ringlet, Common Blue, Meadow Brown and the Chimney Sweeper day-flying moth - or should they concentrate on the birds - House Martin, Buzzard, Siskin, Spotted Flycatcher, Jay and Mute Swan among others. Jim Stewart showed the group an attractive spider called *Enoplognatha ovata*. In a forest clearing there was a large dragonfly which I was particularly keen to identify, especially after Betty Smith's instructional outing. However, although it was watched intently for a considerable time it seemed to have found the secret of perpetual motion because it did not seem to require to rest and continued to zoom around the clearing - I think it may still be airborne - presumably looking for a mate! I am afraid it is another unidentified species.

Several years ago, in 1984, the Society visited Laggan Fen at the north end of the loch which was then an SWT reserve by agreement. I understand that there is no longer an agreement with the landowner. However, the walk covered areas of considerable botanical interest with habitats ranging from the open water, to fen and acid bog, to birch and conifer woodlands and the drier base-rich areas of the railway line. Near where we were to board the bus, there was Alsike, *Trifolium hybridum*, an introduced species.

Prior to boarding the bus, refreshments were enjoyed in the New Inn at Strathyre or in the picnic area, which finished off a delightful day.

Ian McCallum

Union Canal, 31 July

British Waterways look after the Union Canal, stretching 31 miles from Edinburgh through Ratho, Broxburn and Linlithgow to Falkirk. Although not now fully navigable, it is possible to walk along its banks and avoid the road blockages by using a map. Boats sail on part of the canal at Ratho, and, at Linlithgow, trip boats and barges ply the water lending extra life to a quiet backwater. The Union Canal towpath is characterized by wide open views over surrounding farmland and quiet wooded cuttings. Engineering structures loom out of the trees. Aqueducts designed by Sir Thomas Telford cross the three main river valleys; namely, the Water of Leith at Slateford, the Almond at the Almond Aqueduct, and Scotland's longest and tallest aqueduct over the Avon, east of Polmont. Smaller aqueducts can be found wherever a stream passes under the canal and arched bridges cross the water.

A Millenium Link Project plans to re-open all the canal blockages with the aim of re-joining Edinburgh and Glasgow by water. With a grant from the Millenium Fund we hope to accomplish this by the end of the year 2000. Confirmation of the grant is eagerly awaited.

At Ratho a smaller project is piloting improvements to the access paths to encourage use by the disabled. Phased improvements to the path width, car parking, seats/resting places, picnic tables, benches, information and interpretation sites are planned. With the help of an artist we hope to design seats and interpretation facilities to complement the unique character

Old name: [†]*Cheiranthus cheiri*

of the of the Canal area.

I am glad ENHS members enjoyed their visit to the canal at Ratho, and hope they will enjoy further expeditions along the Lowland Waterways.

Helen Rowbotham

Addendum Along the towpath to Wilkie's basin, we noted a variety of flowers viz. Common Valerian (*Valeriana officinalis*), Square-stalked St John's-wort (*Hypericum tetrapterum*), Marsh Woundwort (*Stachys palustris*), Curled Dock (*Rumex crispus*) and Red Bartsia (*Odontites verna*). In the large rock amphitheatre of Ratho quarry, there was Perforate St John's-wort (*Hypericum perforatum*) and on leaves of Dog Rose, Robin's Pincushions, crimson and spiked like miniature mines.

Graham Swift

Schiehallion Limestone Pavement, 3 August

Seventeen members met at Tomphubil Limekiln car park to re-arrange car loads before proceeding to the more limited parking area near the Schiehallion limestone.

Sadly, Jackie Muscott was unable to lead the meet, but, armed with a plant list which she had compiled previously and some instructions, we diligently searched the area along the roadside, through the disused quarry, over the area of limestone pavement and nearby flushes, around the Lochan an Daim and the nearby marsh.

A complete list of 151 plant species has been passed to the Records Secretary. It included: -

from the roadside; Knotted Pearlwort (*Sagina nodosa*), Bulbous Buttercup (*Ranunculus bulbosus*), Common Rock Rose (*Helianthemum nummularium*), Grass of Parnassus (*Parnassia palustris*) and Field Gentian (*Gentianella campestris*)

from the quarry; Green Spleenwort (*Asplenium trichomenes-ramosum*)

from the limestone pavement and hillside; Hairy Rock-cress (*Arabis hirsuta*), Limestone Fern (*Gymnocarpium robertianum*), Mountain Everlasting/Catspaw (*Antennaria dioica*), Quaking Grass (*Briza media*), Petty Whin (*Genista anglica*), Lesser Meadow-rue (*Thalictrum minus*), Alpine Bistort (*Persicaria vivipara*)[†] and Frog Orchid (*Coeloglossum viride*)

from the flushes; Scottish Asphodel (*Tofieldia pusilla*), Glaucous Sedge (*Carex flacca*), Carnation Sedge (*Carex panicea*), Flea Sedge (*Carex pulicaris*), Hair Sedge (*Carex capillaris*), Broad-leaved Cotton Grass (*Eriophorum latifolium*)

from the lochan; Shoreweed (*Littorella uniflora*)

from the marsh; Lesser Bur-reed (*Sparganium natans*)^{††}.

Thirteen sedges were identified, thanks to two members recently back from a course at Kindrogan, but some plants defeated us and Jackie's expertise was certainly missed.

Members also identified the four fungi found; viz. *Boletus erythropus*, *Collybia dryophila*, *Galerina paludosa* and *Paneolus foenisecii*.

Also three butterflies viz. Dark Green Fritillary (*Argynnis aglaja*), Scotch Argus (*Erebia aethiops*), and Common Blue (*Polyommatus icarus*); Golden-ringed Dragonfly (*Cordulegaster boltonii*).

Common Buzzard, Common Sandpiper, Meadow Pipit, and Raven were heard and seen.

The weather was dry but overcast and cooler than the forecast had suggested.

Liz Pilling

Braidburn Valley Park and Comiston Springs, 7 August

There was a good turnout of twenty-one for the last of the summer Wednesday evening outings.

We gathered at the main entrance to the Braidburn Valley Park which was bought by the city from Mortonhall Estates in 1937. The very fine stone gateposts once stood at the entrance to Comiston House.

The Braid Burn starts in the Pentland Hills as the Bonaly Burn and the Howden Burn, these two joining together in the Redford or Covenanters' Wood in Colinton. After leaving the Braidburn Valley, it flows through the Hermitage of Braid and under the shopping centre at Cameron Toll where it caused serious flooding shortly after the centre had been opened. From there it goes to Craigmillar and Duddingston, finally changing its name to the Figgate Burn before flowing into the sea at Portobello.

Old name: [†]*Polygonum viviparum* ^{††}*Sparganium minimum*

Birds, so often seen along the burn, were absent. Dippers are usually around in the spring, not far from the entrance; Grey Wagtails prefer the middle stretch, and a Grey Heron is seen at times, but flies off when the number of walkers and dogs increases.

This year the Parks Department has left a wide swathe of vegetation along the banks uncut, allowing a dense growth of grasses and flowering plants to flourish. Water Forget-me-not (*Myosotis scorpiodes*), Marsh Woundwort (*Stachys palustris*), Woody Nightshade (*Solanum dulcemara*) and Great Willowherb (*Epilobium hirsutum*) were amongst those identified along with several patches of Monkey Flower (*Mimulus sp.*). On the water surface, Water Crowfoot (*Ranunculus aquatilis*), which had been a mass of white flowers a fortnight earlier, still had a few flowers. The willows along the banks are mainly tall trees of Crack Willow (*Salix fragilis*) or shrubby trees of Sallow (*S. cinerea*). Some of the Willow leaves had neatly cut circles removed by a female leaf-cutter bee (*Megachile spp.*). Other trees noted were Wheatley Elm along the roadside edge of Pentland Terrace.

Because of the thick growth along the banks, the holes in the embankments made by Water Voles could not be seen. Their burrowing makes the bank edges unstable, so, hopefully, the dense vegetation, by keeping walkers away from the edge, will help to stabilize the ground.

Halfway along the valley, one comes to the Open Air Theatre, made by the city soon after buying the land. In its early days it was used with enthusiasm, but gradually its popularity declined. Originally its stage was surrounded by conifers, but these were removed a few years ago and replaced by Hornbeam (*Carpinus betulus*).

At the far end of the park an old dense hedge runs part of the way down to the burn. More of this hedge will be seen when one leaves the Park, for it marks the way of the old footpath, known for part of its length as Cockmylane, running from Swanston into Edinburgh, and used regularly by Robert Louis Stevenson. However, before leaving the Park, our attention was drawn to an unusual honeysuckle, *Lonicera involucrata* or Fly Honeysuckle, growing in the hedge. Close by the bridge are several Crab Apple trees, and Poplars which have sent up numerous suckers along the bank.

Comiston Springs is so named after the numerous springs in the area which became the City water supply in 1676. Water from these springs flowed into the collecting tank within a rectangular stone building seen soon after you enter the area. From there the water was piped to the cistern just below the Castle Esplanade which stands only 44 feet lower. From there, water flowed to several points down the High Street.

In all, nine springs were used, and ran in four groups into the collecting cistern. For ease of identification at a time when many of the populace were illiterate, the springs and their collecting pipes were named after two birds and two beasts - Swan, Peewit, Hare and Fox. Originally in open country, these springs are now in a heavily built-up area, but the majority can be found without too much difficulty as the square stone structures over each spring are fairly easily seen. The Hare spring is now in Pentland Gardens, three Fox springs are in Comiston View, the Swan spring is in Swan Spring Avenue, two Peewit springs are in the grounds of Hunter's Tryst Primary School and a third in a garden further down the slope. Mention is made of a Sandglass spring which may also have been known as Owl spring. This is quite near the collecting tank a little further uphill off to the right. Water from this spring flowed into the Peewit collecting pipes. A request was made, and granted, that the Peewit springs be left open for the benefit of people and cattle in the area. This profusion of springs is occurring in an area of Old Red Sandstone which has many fissures, all being overlaid by glacial sand.

The walk continued up Cockmylane past Comiston House where one of our group spent her childhood. She remembered cattle grazing where houses now stand, and also the nearby sand quarry with its dangerously deep water, lost when the Fairmilehead Park was made. At the entrance to this park off Pentland Drive, we looked at an overgrown well which features in old maps, but which has not been used for many a year. Was this the water supply to the garden of Comiston house which was on the slope between the main house and the farm house ?

On the return walk we noted Burdock (*Arctium minus*) and Field Scabious (*Knautia arvensis*), as well as Soft Rush (*Juncus effusus*). After crossing the bridge back to the Braidburn Valley Park, we stopped briefly to see where all the water from the springs now flows into the Braid Burn instead of into the City water supply. The path on the other side of the burn passes through an avenue of Cherry Trees. From this path, pairs of stones are visible well up the slope. These mark the route of the water pipes from the springs. The same pipes

can be followed through Morningside where square stones marked with pipe diameters have been built into walls - in two places in Canaan Lane, both sides of the road in Whitehouse Loan, and on the north side of Strathearn Road. A similar stone lies in the grass opposite Spottiswoode Street.

The outing was greatly enhanced by Ron Baillie's local knowledge and botanical expertise, and by Isla Wilkie's memories of the Comiston area.

Elizabeth Farquharson

Kinghorn to Seafeld Tower, 10 August

The party gathered in the beach car park at 10.30 am, and before commencing the walk, Mr Baird outlined the probable geography of the area in Carboniferous times. On the descent to Kinghorn beach, the first lava outcrop was examined. It showed structures described by Geikie, 1900, as being 'pillow-like'. Passing through the town we admired the Marriage Lintel, dated 1773, in the Nethergate and 'crow-stepped' gables on some of the older houses. A path through the children's park and an underpass beneath the railway line led us on to coastal path towards Seafeld.

The first points of interest were botanical, and the group stopped to look at Woody Nightshade (*Solanum dulcemara*) and a very fine stand of Hemp Agrimony (*Eupatorium cannabinum*). The range of plants was good with many still in flower including the Field Scabious (*Knautia arvensis*). A further geological section was now examined on the beach. It included the first Abden Limestone. Between two basalt lavas, a steeply dipping range of sedimentary rocks was exposed. These were: fireclays with plant fragments, above which were grey shales, then grey/green tuffs and more grey shales. Then came the first Abden Limestone and finally limey shales and another lava flow. At this point, the heavens opened and the party took refuge under an overhanging lava ledge.

When the rain eased most of the party went on to the next section slightly further north where the Second Abden Limestone is exposed on the beach. Almost all the party were able to find the typical fossils from this locality. *Crinoid stems*, *rugose* and *colonial corals* were all collected, some of them showing fine detail. A very fine example of the colonial coral *Lithostrotion* was examined in the limestone which showed the original growing form very well. How Man had contributed to the eroded nature of this coastline was pointed out. In recent historic time people have used rocks exposed on the beach as a ready source of raw material. Rocks were used as building stones and both limestone and coal were extracted wherever they were readily accessible. The result is an unstable region between the railway and the sea which is constantly slipping down on to the beach. Remedial work has had to be carried out to prevent the railway line slipping seawards.

Lunch was taken in improving weather by Seafeld Tower. Once the home of the Moultry family, little now remains of this early sixteenth century tower house. From the rocky point at Seafeld we now had excellent views of seabirds and a colony of seals on the offshore rocks. A group of some sixteen seals were sun-bathing on the exposed rocks with more swimming around looking for unoccupied basking spots. There was a good range of seabirds and waders in the various small flocks. These included gull, Shag, Redshank, Common and Sandwich Tern, Turnstone, Knot, and even a small flock of Starling. The Starlings were giving a very good impression of shore birds by fussing around in the beach debris looking for any edible scraps. We studied the current and channel bedding in the sandstone rocks at Seafeld which is here exceptionally well defined. After collecting several *Septarian Nodules* at this site we started back towards Kinghorn.

The weather had by now greatly improved and several butterflies were seen including Painted Ladies and Small Tortoiseshell. Several Whites, a large number of Meadow Browns and even a pair of Common Blues put in a fleeting appearance. A visit to the ruins of the old lime-kilns showed vitrification of the walls in several places. This indicates the great heat which had been achieved in burning the limestone. As the tide had now gone quite far out, a chance was taken to visit the cave by the metal foot-bridge. This dank and gloomy cavern has been eroded along a fault and goes a long way inland. Until work on the railway brought part of the roof down it had been possible to go even further. As with many such caves there are tales of it having being used by smugglers. At present its only inhabitants are a pair of Swallows nesting in the roof near the entrance. Their excited chittering made it plain that our presence was not appreciated.

The sun was now shining brightly from a clear blue sky but we had at last to head

back to the Kinghorn car park and then home to dry out.

Further reading: *Fife Coastal Walk, Kirkcaldy to Burntisland, Walk No 12*

Wemyss Environmental Education Centre ISBN 0 946 201 97.8

Fife and Angus Geology, by A R MacGregor, 1996 (2nd Edition)

Published by Edinburgh Geological Society.

Bill Baird

Smailholm Tower and Lindean Reservoir, 17 August

Susan Gray, a Borders Council warden, led nine of us over the pasture in which Smailholm Tower is set. It is quite heavily grazed. It is interspersed with porphyritic intrusions. Adjacent to it, is a small loch surrounded by bog.

Botanically there was nothing of special interest, but there was an opportunity to compare Creeping, Marsh, Welshed and Spear Thistle; and also Storksbill with Cranesbill. The dry turf on top of some of the outcrops had swarms of tiny hybrid pansies. The pond was red with Amphibious Bistort in places and also contained Water Plantain.

Small White, Large White, Meadow Brown and Small Tortoiseshell Butterflies were abundant, and there were several sightings of Small Copper Butterflies.

Grasshoppers basked on the rocks, and damp cracks at the foot of the main cliff below the Tower provided an exceptional opportunity to compare young Frogs and Toads, shoulder-to-shoulder and stationary.

We walked round Lindean Reservoir in the afternoon. The path lies partly through woodland but mainly on grassland recently returned from agriculture. Dab-chick chattered and dived alongside Tufted Duck and Mallard, while Swallow and Spotted Flycatcher harvested insects. Blue damselflies were everywhere. Different species of Deadnettle were seen and compared.

Susan Gray proved a well-prepared and knowledgeable guide.

Munro Dunn

East Lomond Hills, 24 August

Nine members walked up Maspie Den on a good path, passing picturesque waterfalls. The heavy mature mixed forest overhead restricted ground cover in places, but several varieties of fern were seen, fungi were emerging in number, yellow slime mould was noted and Golden Saxifrage was abundant.

After lunch, Ena Gillespie conducted a pond dipping session at the lime-kiln on the way to East Lomond Hill. (This yielded various back-swimmers, boatmen, crustaceans, snails newts etc). The boggy areas in particular were of some botanical interest. Attempts to explore the area more widely, however, were frustrated by the onset of thundery rain.

Munro Dunn

Addendum. After lunch, we walked about a mile to the old lime-kilns where there is a small pond, at NO 238058. Access to the water was very limited without Wellington boots, but we were able to make a few sweeps with the net at two points. Insects, crustaceans and gastropods were collected and examined.

The most obvious insect in both quantity and size was the Backswimmer *Notonecta glauca*. When it comes to the surface for air, it swims upside down. All aquatic insects spending their adult life in water have to obtain their oxygen supply from the air. Some insects, such as the Pond Skater, *Gerris odontogaster* which is recognized by the small hook-like appendage on the under abdomen, are adapted to life on the surface. Special hairs on their feet repel water and so enable them to walk on the surface.

The large dragonfly, *Aeshna juncea*, was observed in flight over the pond.

Ena Gillespie

Games Hope Valley and Talla Water, 31 August

Our first exploration of Games Hope Valley and Talla Water, attended by sixteen members, was kindly arranged by Derek Robeson of Borders FWAG (Farming, Wildlife Advisory Group). We were on one of the tenanted farms of a private owner who joined the Central Southern Uplands E.S.A. (Environmentally Sensitive Area) Scheme. Funded by Government, this scheme is designed to help conserve and enhance specially designated areas of the countryside where wildlife, landscape (e.g. heather moorland) or historic interest can be

affected by farming operations.

A gently-sloping farm track leading up the south-running, steep-sided valley to the now ruins of Gameshope farm provided an easy-going footpath, and a ready access to the numerous plants growing in the nutrient rich flushes, grassy hillside and rocky screes. The first damp area revealed Marsh Lousewort (*Pedicularis palustris*), Bog Asphodel (*Narthecium ossifragum*), Sundew (*Drosera rotundifolia*), Marsh Arrowgrass (*Triglochin palustris*), Lesser Spearwort (*Ranunculus flammula*), Fairy Flax (*Linum catharticum*), Quaking Grass (*Briza media*) and sedges such as Star Sedge (*Carex echinata*) and Carnation sedge (*Carex panicea*).

Further up the glen, the flushes and grassy sites were characterized by Golden Saxifrage (*Chrysosplenium oppositifolium*), Blinks (*Montia fontana*), Bog Stitchwort (*Stellaria alsine*), Butterwort (*Pinguicula vulgaris*), Marsh Willowherb (*Epilobium palustre*), Toad Rush (*Juncus bufonius*), Floating Sweet-grass (*Glyceria fluitans*), Heath Grass (*Danthonia decumbens*)[†] and near the farm ruins, Starry Saxifrage (*Saxifraga stellaris*). The rocky screes supported numerous plants of the uncommon Parsley Fern (*Cryptogramma crispa*) while Beech Fern (*Phegopteris connectilis*) grew on the far side of Games Hope burn and also beside the Talla waterfalls, climbed by an intrepid few in the afternoon. At the foot grew extensive stands of Eyebright (*Euphrasia sp.*). The grassy banks above had occasional Milkwort (*Polygala vulgaris*), Thyme (*Thymus polytrichus*), Rockrose (*Helianthemum nummularium*), Goldenrod (*Solidago virgaurea*) and on the opposite bank of the water, leaves of Globeflower (*Trollius europaeus*) were noted. At the top we were rewarded by the sight of an obligingly semi-active Peacock butterfly. Our group then met the members who had taken the road route to the top. They had recorded on the grassy banks New Zealand Willowherb (*Epilobium brunnescens*), Viviparous Fescue (*Festuca vivipara*), Flea Sedge (*Carex pulicaris*) and five ferns - Polypody (*Polypodium vulgare agg.*), Hard Fern (*Blechnum spicant*), Lemon-scented Fern (*Oreopteris limbosperma*), Beech Fern (*Phegopteris connectilis*) and Black Spleenwort (*Asplenium adiantum-nigrum*).

Such diversity of acid- and lime-loving plants is due in no small measure to the Silurian Greywacke rocks, which contain bands of siltstone/shale rock rich in calcium carbonate.

Graharn Swift, Derek Robeson

The Gardyloo Sail, 5 September

This year's sail, on Thursday 5 September, was in good weather, as indeed it has been the case for a number of years. It was cloudy bright with some sunshine and a light easterly wind. As there had been a northerly component in the wind for a few days beforehand, the conditions were considered by those knowledgeable in such matters, to be right for the passage of skuas and shearwaters, and possibly other sought-after species. So hopes were high as we breakfasted on board prior to casting off at 08.30 hrs.

Results for the day, however, did not quite reach the standards set during recent years. Some disappointment was felt on seeing only two species of Skua, rather than four, and missing out on Sooty Shearwaters. But we did see a total of about forty Manx Shearwater, five Arctic Skua and one Pomarine Skua. The latter flew slowly alongside, close in, to give a near perfect ('crippling' in twitchers' terms) view of its bulky shape and its spoon-shaped, projecting tail feathers.

Of course there were many other seabirds to be seen. Gannet, Kittiwake, and Guillemot were plentiful. Razorbill and Puffin were about too. And just off Fife Ness, as we headed for a point some miles east of Bell Rock lighthouse, a party of about ten Little Gulls were spotted among the Kittiwakes. A few passerines were noted too. Two Meadow Pipit were seen flying overhead, and on board for a short time were a Whinchat and a Garden Warbler.

Bird watching was abandoned at one stage during the afternoon when Ron Leask, the Master, gave us a talk and demonstration of the capabilities of the ship's radar system. It was quite fascinating to see how it could pick out landscape features, give compass bearings, measure distances, plot the movement of other vessels, record closing speeds and provide much other information for the navigator. He then followed all that with an explanation of the technicalities of loading and dumping 2000 tonnes of sewage sludge, and ballasting the ship with 1000 tonnes of sea water for the return journey.

That's how jellyfish get into Leith Docks !

Jim Stewart

Old name: [†]*Sieglingia decumbens*.

Scone Palace Grounds, 7 September

Fourteen members of the Society met in Scone Palace Car Park (NO119265) to explore the policies and the pinetum. Home of the Earl of Mansfield, it is claimed to be the centre of Scotland geographically and its centre historically. Here on the Stone of Scone, Scottish monarchs were crowned until 1296 when Edward I took the stone to Westminster Abbey and now after seven centuries it is about to be returned to Scotland. To begin our walk therefore we set out to see its replica on Moot Hill, a mound to the north of the Palace. Four Deodar Cedar (*Cedrus deodara*) saplings have been planted on its west slope. We looked at the three venerable Cedar of Lebanon (*Cedrus libani*), showing signs of age, some old oaks, a Spanish Chestnut and a short avenue of Yew (*Taxus baccata*), before we passed the old graveyard with its ancient wall surrounded by Yew, and walked through the old archway with its gun ports, ahead of which is the Mercat Cross of Old Scone. In 1805, the old Earl moved the village two miles away to the New Scone. We walked down Lime Avenue; above us towered huge Douglas (*Pseudotsuga menziesii*) and Noble Fir (*Abies procera*), laden with cones, looking magnificent in the sunshine.

At the foot of the avenue, we turned left to examine a clump of younger conifers amongst which we identified a *Pinus nigra*, Japanese White Pine (*Pinus parviflora*) and Macedonian Pine (*Pinus peuce*). We returned to the picnic area beside the car park for lunch, pausing on the way to admire a huge Douglas Fir (*Pseudotsuga menziesii*), grown from seed sent back from the United States by David Douglas, 'Douglas of the Trees', who was a native of Scone where his father was a gardener at the Palace.

In the afternoon, we visited the famous pinetum, started in 1848, where gigantic trees introduced by David Douglas have been planted in rows; Western Hemlock (*Tsuga heterophylla*), Wellingtonia (*Sequoiadendron giganteum*), Atlas Cedar (*Cedrus atlantica*), Lawson's Cypress (*Chamaecyparis lawsoniana*), Jeffrey's Pine (*Pinus jeffreyi*), four enormous Sitka Spruce (*Picea sitchensis*) and many others. Among the more unusual species were Japanese Umbrella Pine (*Sciadopitys verticillata*), Californian Nutmeg-tree (*Torreya californica*), Dawn Redwood (*Metasequoia glyptostroboides*) and Coast Redwood (*Sequoia sempervirens*). Both male and female Monkey puzzle, the Chilean Pine (*Araucaria araucana*) are growing together which is unique in Scotland; so we could see the male catkins and the female cones at the same time.

Among the firs, perhaps the most interesting was the Nikko Fir (*Abies homolepsis*) with its purple-blue cones encrusted with white resin. We returned by a shady path through the broad-leaved woodland containing old Oak, Beech, Horse Chestnut, an American Buckeye (*Aesculus flava*) and a variety of shrubs, Holly, Box, some with variegated leaves, Guelder Rose (*Viburnum opulus*) and Red-berried Elder (*Sambucus racemosa*). Common White Helleborine (*Veratrum album*) was also seen, a poisonous plant of European montane pastures. Catmoor Pond was too overgrown to be explored and so was Chantry Gait and the Friar's Den; Giant Hogweed (*Heracleum mantagazzianum*), Giant Knotweed (*Fallopia sachalinensis*)[†] and nettles deterred us, but not the intrepid Jackie Muscott, whose sharp eyes had spotted *Poa chaixii*, Broad-leaved Meadow Grass. She then doubled back to the pond to find Flowering Rush (*Butomus umbellatus*), which is rare in Scotland.

A plantation of young Maple was very attractive with several varieties of *Acer palmatum*, an *A. griseum*, Paper-bark Maple, and two *A. rufrinerve*, Snake-bark. We looked across to the new pinetum which promises well for the future. The flower beds in the ornamental garden aroused a lot of interest: among the flowering shrubs were many rose and rowan varieties, Snowy Mespil (*Amelanchier* sp), Pieris (*Pieris japonica*), Spindle (*Euonymus europaeus*) and a Mulberry (*Morus* sp).

Painted Lady, Red Admiral, Small Tortoiseshell butterflies and the day flying Silver-Y Moth were all enjoying the Buddleia flowers in the warm sunshine. Apart from the numerous Peacocks and their families, we had seen little bird life, though a brief glimpse of Long-tailed Tit gave pleasure. From Hazel shells we had evidence of Mouse and Squirrel. The one hundred acres are very well maintained and the beautiful trees well cared for. Members had enjoyed an "Indian Summer" day in peaceful surroundings.

Mary Robertson

Tynninghame, 14 September

This Saturday was one of these rare days when the East Lothian weather was gentle. Tynninghame was sunny, warm and peaceful, with the slightest of winds, persuading us to drift

Old name: [†]*Reynoutria sachalinensis*

contentedly through the woods to St. Baldred's Cradle.

Our aim was to find ladybirds. All fence posts had to be examined - such a good reason for moving slowly and, of course, we could not rush past the many plants of the small Balsam, *Impatiens parviflora*, growing by the side of the path since we had to find out if any of the seed pods were at the explosive stage of firing off their seeds. Our vigilance was rewarded with several 7-spot ladybirds, a Wren's nest, some splendid specimens of Parasol mushrooms, *Lepiota procera*, and a forest bug, *Pentatoma rufipes*, on a post.

After lunch, the hunt for ladybirds, other than the 7-spot, became more serious and we shook branches of Scots Pine above a bright blue waterproof square. It was really quite interesting. We got pine needles, pine cones and spiders. And so we gave up on the Scots Pine and tried a Lodgepole Pine. Here we had the enthusiastic help of our youngest member, Patrick Adamson, who beat the branches with his stick. Matters improved immediately. We got two ladybirds, 7-spot of course, and a pine weevil, *Hylobius abietis*, with a pattern of orange spots and a long "snout". He really was a splendid beast, playing dead, and moving only when he thought we were not looking. He allowed me to carry him in his suspended animation all the way along the path for Eunice to see and then back to his Lodgepole Pine. We found *Russula* fungi under these conifers.

We walked on by the side of the still blue waters and then round the spit of Sandy Hirst. There were large, beautiful clumps of Sea Rocket, lovely vivid sprays of Scarlet Pimpernel and tall, magnificent Perennial Sow Thistles. The still blooming Black Horehound had to be identified for us by George. The edge of the little wood of Sycamore had been well battered by the sea and in some cases the tree roots were almost completely exposed. Here we found many tall plants of Weld but we searched in vain for the Henbane we expected to find. Saltwort, Sea Sandwort and Frosted Orache were growing in the sand and Annual Sea Blite on the saltmarsh. The Mayweed was still in bloom as it always seems to be at Tyninghame and there were a few flowers of Storksbill.

As we gathered at the cars, we all agreed that this had been a particularly pleasant outing and we thanked David Adamson for organizing it.

I know that Ladybirds are beetles and once, when one flew into my mouth, I discovered that it had a distinctive taste. This being the sum total of my knowledge of Ladybirds, David has written an addendum to this account.

Margaret White

Addendum The themes of this excursion were Ladybirds and General Natural History. On the day there were many ladybirds, probably over 60, but most of the species known to be present were not found. All but one of the adult ladybirds were 7-spot, and the diminutive 11-spot was the one exception. A large larva of a third species, the Orange Ladybird, was found on a fence post under a Sycamore. This species often over-winters as a larva or pupa, unlike other species which see out the cold months in adult form.

The three species found were the same as found on a preliminary walk two weeks previously. However, on October 1st 1995, the same walk had produced the following list, all but four of which were found on fence posts:

Five 7-spot
Three 10-spot
Two Cream-spot
Seven Eyed
Two Striped

So four of the five species found in 1995 were not re-discovered, and in 1996 the ladybirds were on Pine, Sycamore, Nettle, fence posts, Bramble, Bracken, Grass - in fact almost everywhere. Did the changes in species and habitat indicate that some species had fared poorly in 1996, perhaps due to a failure of their food supplies, and that the clustering on fence posts, observed over several different years at different places, only occurs when autumn has properly set in ?

The numerous 7-spot Ladybirds showed great size and spot-size variations. A couple had been damaged and their wing cases (elytra) were discoloured. Most were found by scanning plants, fence posts and the ground; the beating of branches of Pine and Sycamore was unproductive, apart from two 7-spot, but the debris that fell on to the groundsheet included a large weevil, probably the Pine Weevil, Earwig, ants, caterpillars, many spiders, and very

many dead pine needles. Other entomological interest was found in some Red Admiral butterflies, abundant grasshoppers, *Sympetrum stridatum* dragonflies and a forest bug. There were large *Lepiota procera* mushrooms in places, plus a few *Russula* species under pine. Other aspects of natural history, together with the perfect weather, made for an interesting and pleasant excursion.

David Adamson

Penicuik Estate, 28 September

Twenty members led by George McDougall explored the extensive estate of Sir John Clerk. The mycologists found many specimens in the woods and then we came to the lake with the usual Coot, Moorhen and Mute Swans. A few late flowers lingered along with some fine seed heads of Yellow Flag.

The boathouse proved to be entered through a whalebone jaw arch, a new find to be added to the list described by Elizabeth Farquharson in the 1995 Journal. Beside it grew a large patch of Shallon (*Gaultheria shallon*), a plant brought back from America by David Douglas. A row of ancient Holly trees bordered the lake, and nearby three kinds of Sorbus with white, pink and red berries.

Further on we came upon the ruins of Penicuik House (1766) and the stables which were converted into a smaller house in 1902, following a fire which gutted the main house. In the distance was the monument to Allan Ramsay, the renowned painter.

Passing a fine Sitka Spruce, we picnicked on the Gladiator Bridge over the North Esk river. Passing another lake fringed with Water Horsetail, we crossed a field up to the old curling pond where we disturbed about fifty Mallards. They scrambled up a very steep bank for about fifty yards - I have never seen so many ducks run uphill before!

Then we visited the Garden House where Mr and Mrs Corlson showed us their garden and the site of the Witches Coven, dated about 1790. It is a circular area surrounded on three sides by Yew trees and on the side nearest the river by Beech (the escape route for those pursued by witches, which could not cross water!)

Returning to the cars, we passed two splendid Douglas Fir, a Brewer's Spruce and probably a Silver Fir (*Abies alba*).

Connie Stewart

Hermund Birch Wood, 12 October

Hermund Wood (a *Scottish Wildlife Trust* reserve near West Calder) is a varied habitat with a good selection of broad-leaved and some coniferous woodland. We were fortunate to have Dr Adrian Newton ready to identify and answer awkward questions about our fungal finds. There was an additional promise for the October day because a solar eclipse was due: this was not to be missed as the next one visible in this area of the country would be many years distant.

The morning did not start well because the SWT sign had been removed and many of the party (17 people and 3 dogs) experienced some doubt about whether or not they had found the correct place (an unobtrusive small car park). Once out of the cars we realised how miserable and cold it was and that the rain, although not really heavy, was relentless. However we paddled through the mud and entered the Reserve area looking for the tell-tale fruiting bodies of fungi.

The ubiquitous Brown roll-rim (*Paxillus involutus*), Sulphur Tuft (*Hypholoma fasciculare*) and specimens of *Gymnopilus* were evident. Under the canopy of the trees the flesh of the specimens of *Russula fellea* was so damp it was difficult to be convinced of the distinctive smell of pelargonium: *R mairei* was also much affected by the all-pervading damp. The unfavourable conditions had little effect on the Velvet Shank (*Flammulina velutipes*) and most of the specimens retained their shape and colour. *Pholiota myosotis* was at home in moist peaty ground in sphagnum and two species of *Mycena* were identified, *M epipterygia* and *M galericulata*. We found an example of *Collybia maculata* which had obviously 'read the book' as it exhibited its definitive spotted tough shank and was growing in leaf litter and bracken under a birch tree.

One major find - or so we thought - was an area which appeared to afford some lunch-time ambience in a grove of trees. However, we finally decided that drips from branches and leaves were an even more efficient wetting agent than straightforward rain and abandoned the search for more specimens.

Did we observe the solar eclipse? What a hope!

Eunice Smith

Covenanters' (Dreghorn) Wood, 19 October

Elizabeth Farquharson led a group of nineteen fungus enthusiasts, which included two visitors from Perth, Australia, to Dreghorn (or Covenanters') Wood. Unlike the previous Saturday, the forecast was promising, and in fact it was a pleasantly mild autumn day except for a brief mid-morning shower.

The wood is owned by the Ministry of Defence and some forestry work has been carried out in the past year; rhododendrons have been cleared - a positive advantage for the mycologist - but, regrettably, the ground has been 'tidied up' considerably and some fallen tree trunks and general debris have been removed to the detriment of the fungi. This is primarily deciduous woodland with a few conifers, as is reflected in the range of specimens recorded.

It was encouraging to those who may find the scientific terminology daunting to start with some examples of fungi for which an English name is in general use. Thus *Lepista Nuda* (Wood Blewit), *Hypholoma fasciculare* (Sulphur Tuft) and *Xylaria hypoxylon* (Candle Snuff Fungus) were spotted very early followed by *Laccaria laccata* (The Deceiver), *Clitopilus prunulus* (The Miller), *Oudemansiella mucida* (Porcelain or Poached Egg Fungus) and a species of *Armillaria*, the genus to which Honey Fungus belongs. Near the point where the Braid Burn joins the Howden Burn, Mary Clarkson found a *Scutellaria* (Eyelash Fungus) and the trophy she brought back from paddling in the burn was *Phallus impudicus* (The Stinkhorn)! Our noses were exercised to be convinced of aniseed (*Clitocybe fragrans*), radishes (*Mycena pura*) and old-fashioned washing-soap (*Tricholoma saponaceum*).

The recent rainfall had benefited the smaller varieties and so we had to focus down on a tiny *Crepidotus*, to *Calocera viscosa* and *C. Cornea*, *Merulius tremellosus*, *Stereum hirsutum*, and a very small *Tyromyces caesius*, a young *Trametes versicolor*, *Bisporella citrina*, *Marasmius ramealis*, *Chondrostereum purpureum*, *Typhula erythropus*. *Nectria* was everywhere and, in addition to the many examples of *Mycena galericulata*, there was one example of the dainty *M. galopus* v *candida* and the tiny gilled fungus *M. capillaris*.

Because of the forestry operations in the lower part of the wood there are many old tree stumps and fallen branches remaining as well as leaf litter and so it is not surprising that so many groups of *Collybia confluens* (Clustered Tough Shank) were found. The other *Collybia* species noted were *C. butyracea* (Butter Cap) and *C. dryophila*. There was an isolated group of *Galerina mutabilis* and some *Coprinus micaceus* (Glistening Ink-cap). *Lycoperdon perlatum*, *L. pyriforme* and *L. foetidum* and one *Scleroderma* were also found among the leaf litter.

The specimens have been listed very broadly in the order in which they were collected and they chart our progress along the river to the stone bridge where we had lunch in the sunshine and back along the top of the bank, after paying our respects to the Covenanters' Monument from which the wood derives its name. As we turned back, we entered the part of the wood declaring itself MOD property and proceeded along the outside of the perimeter fence. Elizabeth had assured us that she had brought a relevant letter but she was not required to produce it. We did see two young soldiers with rifles at the ready but, probably reassured by our obvious maturity, they greeted us with a wave and not a challenge. The habitat changed when we left the deciduous litter on the valley bottom and moved into a slightly more open and grassier environment - but here too there was a marked absence of the common larger genera such as *Russula*, *Lactarius*, *Boletus*, *Agaricus*. However, *Clitocybe nebularis*, (Clouded Agaric), *C. geotropa* and *C. phyllophila* were found as well as *Melanoleuca melaleuca* and frequent *Psathyrella gracilis*. *Auricularia auricula-judae* (Jew's Ear) was also found.

Eunice Smith was foraging along the riverside and returned with a resupinate having red-staining in the pores: that, like some of the other fungi found, defied identification (as yet) but it was satisfying to be able, at least, to assign most of these specimens to a genus. There were some *Coprinus* species, an interesting spread of fungus thought to be *Tuberia* and one example of *Pluteus* which required further examination.

For those interested in trees, this is a delightful wood, having been part of a landed estate with specimen trees: *Cedrus libani* (Cedar of Lebanon), *C. deodara* (Deodar). *Thuja plicata* (Western Red Cedar), *Sequoiadendron giganteum* (Wellingtonia), *Pseudotsuga menziesii* (Douglas Fir) and *Picea abies* (Norway Spruce) were noted as well as Maples and *Acer pseudoplatanus* (Sycamore). With reference to the latter, *Rhytisma acerinum* (Tar Spot Disease) was evident. There are ancient Holly, Laurel, Cherry Laurel and lovely old Yew trees. Just to confirm the strangeness of the season *Mimulus* sp (Monkey Flower), *Myosotis*

scorpioides (Water Forget-me-not) and *Geranium robertianum* (Herb Robert) were still in bloom!

We rounded off the afternoon by assembling at the Water of Leith Centre, where the collection was laid out and classified.

Mary Blair (Southeast Scotland Fungus Group)

Musselburgh Lagoons and Kilspindie, 9 November

This was the twenty-first anniversary of the event - every year for the past twenty-one we have braved the elements of Musselburgh and Kilspindie. Appropriately, but approximately, it was twenty one members who made up the outing this time; approximately, as there was much 'coming and going', some coming just for the morning, others for the afternoon. We welcomed four members of the Glasgow Natural History Society.

At Musselburgh in the morning we observed Mallard, Merganser, Golden Eye, Wigeon, and Long-tailed Duck beyond the sea wall on the high tide - not as many Duck as last year but enjoyable in the early winter sunshine. We had a look at the active lagoon and observed most of the common wader species roosting on the ash awaiting the tide to ebb. Pangs of hunger dictated our return to the cars but on the way back came the morning's great highlight - ten Snow Buntings. Remarkably, at one point they were only about ten feet away from us, drinking from a pool on the path by the sea wall.

Off to Aberlady and a good lunch after which we met Ian Thomson, the Aberlady Warden. We walked along the road to Kilspindie Golf Club. The ebbing tide and the perfect light was great for observing all the common waders. Ian was doing a Goose count that afternoon and the Pinkfeet duly obliged us all. A Sparrow Hawk gave chase to Fieldfares. Tree Sparrows were observed in the trees by the golf club-house and the curtain came down on an enjoyable day with a Peregrine disappearing into the sunset.

It has been my privilege to lead this outing over the years. The people who make it all worthwhile are the members behind their 'scopes and binocs who make up for the inadequacies of identification the leader suffers on the day,

Every time on this outing we literally observe thousands of birds, and at close quarters too, but the greatest enjoyment comes from renewing the friendships I have made with members over these many years.

Charles Pountain

Beecraigs Country Park, 7 December

The ranger, Beverley Stirling, talked about the re-introduction of over 40 Red Squirrels from an island of Reds among a sea of Greys in Fife. One of the tagged newcomers was found in Falkirk a few days later, perhaps intending to return home via the Kincardine Bridge! The Beecraig Grey Squirrels were well culled to assist the re-introduction of Reds and, after three years, the newcomers appear to be thriving. On this chill grey day, however, neither of the species made an appearance.

Surprisingly, in view of the preceding weather conditions, the main natural history interest came from fungi. Two weeks of snow and frost had failed to remove these species sheltered by closely planted conifers. As well as large numbers of late season species, like *Collybia butyracea*, *Mycena pura* and *Lepista inversa* there were two worthwhile finds. One was a large Cauliflower fungus (*Sparassis crispa*) at the base of a Spruce. This may be the first of its kind found in the Park. The second, and more important, was the re-discovery of the rare, red, truffle-like fungus called *Paurocotilis pila*, an immigrant from New Zealand. It was first found by the Fungus Group of South East Scotland on an informal outing in December 1994 and, in the two years since, has spread to a nettle bed on the other side of the path. On the nettles, around fifteen 7-spot Ladybirds were trying to over-winter, their sleep disturbed by our interest in the rare fungi beneath them.

We heard Jays, saw Herons, Siskins and Long-tailed Tits, and were shown great damage to the plantation caused by recent ice and by gales which occurred a month previously. Large uprooted Spruce were propped up by other trees; some tops had been broken off leaving the rest of the tree standing. Even an oak had been cracked apart by ice.

After two and a half hours we returned to the car park for lunch. Afterwards a few members drove to Cockleroy car park to make the most of the daylight that remained.

Our thanks to Beverley Stirling for a most enjoyable walk.

David Adamson

VOLUNTEERS WANTED !

CAN YOU HELP A SCHOOL ?

Nature and Nurture

With rapidly growing children, I am keen to lead them in the direction of being able to appreciate their surroundings. But, I am also aware that, within their peer group, children like to appear 'cool' (I think you have to be younger than I am to appreciate to the full the depth of meaning in the modern use of this word. - *Editor*).

The obvious option to me was to find a way of ensuring that my children's peer group had access to similar opportunities to those already provided for our children. The solution, hopefully, will be the development of wilder school grounds at Jennifer's primary school - currently a plain of mown grass with a few pretty trees. On entry to school, I made my interest known to the senior teachers. Fortunately, they had the similar desires and also the offer of assistance from a landscape architect student, who could plan a suitable development as her project.

Once the areas have been developed, we hope to maximize their use for social, scientific and other areas of education. This is a long-term project, and, after landscaping and planting, the grounds will need maintenance. For this I see the need for 'friends' of the project to help the children and staff understand the environment they have created.

For this, I would like to forge links between Carrick Knowe School and the Natural History Society, and ask members to share their expertise and knowledge with the children of the area. Initially, we could help the children and staff to complete biological surveys of the grounds and try and track the changes that take place during the development of the grounds. When areas such as the pond have been created, members could help with sampling techniques and identification and recording of finds.

If you would like further information, or think you would like to help, please contact me.

Sarah Adamson

0131 334 6281

CAN YOU COUNT BIRDS ?

Have you ever seen a puffin with a beak full of fish, or a kittiwake on its eggs?

Do you know which island in the Firth of Forth is the most beautiful in spring?

Do you know which of the birds below are found each year on the islands in the Firth of Forth?



If you can (or need to find out), can count to 10 (or 20 with your shoes off), own a notebook and pencil, and are able-bodied enough to get around on grassy/rocky slopes then we need you! (Should we have to rely on people coming from Dumfriesshire to count OUR birds?) Counts start the last weekend in May and continue into June. If you are interested then book your place through the organiser given on the Excursions list when it comes out (or if you would like to discuss it further phone **Bill Bruce on 01506 432222**).



Journal

1997

March 1998

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EDITORIAL

As the Reports on the Outings show, 1997 was a very successful year for the Edinburgh NATS. We must record our thanks to the Excursion Committee who organised such an interesting variety of outings on Wednesday evenings and Saturdays throughout the summer (40 in all). The highlight of the year was surely the week at Inchnadamph in Assynt, where 30 members enjoyed a week of hot sunshine, blue skies and magnificent scenery. Our thanks go to Jean Gilchrist and Lyn Blades who did a brilliant job in finding first-rate accommodation in the Inchnadamph Hotel and nearby Hostel and in organising the highly successful week's programme. Let's hope that we maintain our direct line to the Met. Office to organise the same lovely weather for Arran this year!

It is always sad to record the deaths of Nats. members and this year has seen the passing of George Carse and Harald Hughes, both long-standing members.

OBITUARIES

George Carse

George Carse, born in 1919, died after a short illness on Friday 21 March 1997. His career spanned service as Chaplain in the Royal Navy during the last years of the Second World War, as Parish Minister in the Church of Scotland and as an Advocate. After returning once again to the Ministry for several years, a heart complaint eventually caused him to retire.

Even as a schoolboy George was enthusiastic about wildlife and nature conservation, a passion that never faded throughout his life. He was never afraid to advance his ideals by all possible means. His letters to 'The Scotsman', regular nature notes in the 'Edinburgh Evening News' as well as active membership of both the Scottish Wildlife Trust and the ENHS all bore witness to his continuing pleasure in wildlife and his efforts on behalf of nature conservation.

His membership of our Society for over 40 years saw his active participation both in excursions and at lectures. A naturalist whose first love was birdwatching, he took part in the early, at times somewhat adventurous, Forth Island Bird Counts. George also led excursions and was at various times a member of the Excursion Committee and of Council. He was honoured as President of the Lothians Branch of the SWT for many years and also as President of the ENHS. He was instrumental in gaining the financial support of the ENHS for construction of the Gunn pond at Bawsinch and the cuttings through the reed beds at Duddingston Loch, both SWT projects aimed at increasing the wildlife potential of the area.

His keen interest in the welfare of our Society and his pleasure in being a member was given expression by his recent handsome donation of an overhead projector when the Council decided that the Society should have this modern aid for the use of lecturers and his legacy of £500. The most self-deprecating of men, he was generous to a fault in his praise and encouragement of the efforts of others. His familiar figure is sadly missed at Society meetings.

Harald Hughes

Harald Hughes died in April 1997, in his 90th year. His wife Phyllis predeceased him by six weeks. Harald was a keen member of the Society in the early Sixties until he left Edinburgh and he continued to keep in touch until his death. His chief interest was in birds and in the sea, particularly the Uganda Cruises with the National Trust for Scotland. He served on the Council and on the Excursion Committee, taking members to the Solway, Aberdeenshire and Norfolk, as well as arranging and leading a varied programme locally.

Most outings were by private coach or service bus then, and Harald would somehow get us all on a 44 seater coach, seldom leaving anyone behind on Waverley Bridge.

THE LIBRARY

As the new Librarians we are finding the job interesting and we are very pleased when people borrow books - we like to do some business!

The Library is very well stocked and has been comprehensively catalogued. This catalogue can be examined by any member who wishes to do so and we are willing to bring along any book asked for. We are happy to look for a book on any subject suggested to us if a member likes to phone us with a request. There are in all 591 titles in 60 different categories.

All a borrower needs to do is choose a book, enter details of the book in our register and sign it and enter his or her phone number and date of borrowing. On return we enter the date of return.

We are having to move all the books out of the Water of Leith Conservation Headquarters whilst the building is renovated with a grant from the Millennium Fund. Elizabeth Farquharson has very kindly volunteered to store the books and bookcases for us until the renovations are complete. We will need some able-bodied volunteers to help pack up the books for transportation.

Joyce and Robin Marks
Tel. 0131 334 5501

SOCIETY EQUIPMENT

In addition to books held in the Library, the Society has various other items which can be borrowed by members for their private use, including LP records of birdsong with accompanying booklet, and a recording of Grasshoppers. Needless to say, members will be responsible for the care of books and equipment on loan.

Telescope:	A Bushnell Spacemaster of 20x-40x magnification, in carrying case and a car window mount for in-car use. <i>Apply to Miss Molly Woolgar (Tel. 0131 667 2688)</i>
Microscopes:	A number of high and low power microscopes. <i>Apply to Miss Margaret Perry (Tel. 0131 447 3515)</i>
pH Meter:	For measuring the alkalinity/acidity of soil or water. <i>Apply to Mrs Mary Clarkson (Tel. 0131 667 3815)</i>
Mammal Traps:	Twenty-four small mammal traps. <i>Apply to Mrs Elizabeth Farquharson (Tel. 0131 447 1994)</i>
Photographic slides:	A comprehensive slide collection left to the Society by Miss Janet Raeburn. The subjects are mostly botanical but also include birds, mammals, butterflies and Scottish scenery. They are kept in the Library.
Bawsinch Key:	The Bawsinch Nature Reserve at Duddingston is managed by the SWT, who allow the Society to hold a key for members to have access to the hide overlooking Duddingston Loch. <i>Apply to Mr Jim Stewart (Tel. 0131 447 4210)</i>

CORRECTIONS

On Page 37 of the 1996 Journal, the Tentsmuir outing, the Water Chickweed (Myosoton aquaticum) mentioned in the plant list, is highly unlikely, since it's a southern species, not found north of Durham these days. It is however very similar to the Wood Chickweed (*Stellaria nemorum*) which is a northern plant found in damp woods and by shady streams - a far more likely candidate.

JACKIE MUSCOTT

I must point out a howler on P39, Musselburgh 26th June Outing.

"Several weeds grew beside the path: Knot grass or Coral-necklace (*Illecebrum verticillatum*)". Where this came from I cannot imagine! The text should read "Knotgrass (*Polygonum aviculare*)".

My apologies to all members and readers.

MARY ROBERTSON

"OUR ENVIRONMENT, OUR BIODIVERSITY, OUR RESPONSIBILITY"

One of the challenges for 1998 will be to get the word "biodiversity" into everyday language. In the 1960s the problem did not seem to exist to the same extent for "conservation". We already used it in relation to buildings and ancient monuments, so to link it with wildlife was perhaps not too difficult. However, it was the process, and the way it was to be developed, that was to become the problem. But biodiversity is a totally different matter. It is a word conjured up by a scientist in the 1950s, I think, which is shorthand for biological diversity. In itself this creates a mental barrier simply because it sounds - scientific!

However, biodiversity is a word that we are going to have to get used to since in 1992 the British Government signed up to the "Biodiversity Convention" at the Earth Summit and we are committed to following it through with action at both the national and local levels.

On 17 December 1997, West Lothian Council launched its "Biodiversity Action Plan" for public comment. Such plans are now appearing throughout Scotland. The City of Edinburgh is preparing one and Fife has published its model. In Dumfries and Galloway a partnership of interested bodies has started the process and Orkney has even got a "Biodiversity Officer". Is this just another part of the mysterious work of Local Authorities or is this really going to make a difference to the way we manage and look after the wildlife heritage of Scotland? The proof will be in a few years time, when we can see the fruits of all these action plans, but if this is the starting point of a new era in nature conservation then we are witnesses to it. There is a lot at stake, not least the future of wildlife and man's interaction with it.

Biodiversity action is focused on species, their sustainability and their place in the complex web of natural life in which man has proved to be a dominating and damaging force. The question is, "Can we continue as we are?". With a mixture of hindsight and foresight, have we now reached the point of recognising that we cannot afford to lose any more of the biological riches of the globe? If we ignore this then we do so at our peril, and most importantly we threaten the welfare of future generations.

Biodiversity is certainly about nature conservation - but not for its own sake. The distinctiveness of Scotland, down to that of our own locality, is due to a combination of geology, land form and the biodiversity that it supports. Man has dramatically influenced and modified what was the natural landscape of Scotland, by controlling, managing and changing the biodiversity of the countryside. What we have inherited is the result of centuries of man's influence and wildlife has either coped with this or become extinct, or at least forced into refuges. Over 150 Governments of the world have recognised that this cannot continue since we are losing and damaging habitats and even extinguishing species to the detriment of man's future.

What does biodiversity do for us then, other than creating pleasure? It provides us with medicines, natural materials for biotechnology, clothes, food, shelter and fuel. It gives us oxygen, the yeast that makes whisky, the silk for that scarf and the new varieties of apple in the supermarket. We rely on the biodiversity of the world for these yet how often do we actually think about it?

In this way we can all begin to regard biodiversity as an integral part of the human life but our influence on it can be so devastating that we are actually losing the resource that we and future generations rely on.



This is why local "Biodiversity Action Plans" are so important. Global and National targets for action ultimately come down to the local level for interpretation and action - and it is not just for the rare or glamorous species. All wildlife matters.

Today the Earth's environment is changing more rapidly than ever before because of man's activity.

So, back to the action plans that are now going to lead us in the future. Each is based on an audit of species and habitats of a geographical locality, or a Local Authority area, to determine what is important, what is at risk and what requires focused action. This is not about sites but species diversity across the countryside and this is what is different about the approach. Our wildlife cannot be protected just in nature reserves or Sites of Special Scientific Interest. A very specialised few species are individually so scarce that a nature reserve might hold the entire Scottish population, but this is exceptional since wildlife does not respect a boundary line on a map. It migrates and moves around to wherever it can find a comfortable home. This is why we are no longer talking of sites but of action plans for species, to sustain and enhance them, their distribution and numbers.

In West Lothian the audit uncovered over 2,000 recorded species - from mammals to fungi; a fraction of what is actually there but that is the information base to start with. From these a list of 100 was selected to represent what are the most rare, the most typical and the most vulnerable to change. Eight priority habitats were also identified - including oil shale bings. Perhaps a strange priority habitat to be concerned with but one unique to West Lothian, with a particular assemblage of plants and animals that reflect the special nature of the habitats that have developed on them. Each priority habitat has been reviewed to assess its national or local loss, the continued threats, and the actions and targets necessary to address these. This will be the focus of action for the future.

What is important, however, is that biodiversity and its future is the responsibility of everyone. We can all make some kind of contribution. Whether farmer, town planner, teacher or gardener, we can all do something. It may be improving the wildlife habitat in our garden, introducing environmentally friendly practices on the farm, or volunteering to help manage the woodland up the road. It all

makes a contribution.

Local Authorities may produce plans and effect a significant enhancement through managing their own land, influencing planning and other contributions to biodiversity, and developing the topic in schools. However, they will depend upon others taking a lead, accepting responsibilities and meeting targets. At the local level this is what it will take but there is a lot of demonstration and awareness-raising to take place before this will happen.

Publishing an action plan is relatively easy but to encourage action, participation and responsibility is going to take a long, long time. It cannot be rushed but if we ignore the needs then we will leave a depleted resource for which future generations will not thank us.

So - what are you doing about biodiversity? List ten things - if you can't, then think what you might be able to do and do it. Ask what the ENHS is doing about it. Enjoying our wildlife is a privilege but if we do not make a contribution, no matter how small, then we are ignoring the messages and the evidence.

DR JOHN SHELDON

Footnote: John Sheldon represents Scottish Local Authorities on the Scottish Office Biodiversity Group and chairs a number of national committees developing guidance on Local Biodiversity Action Planning.

Biodiversity is about the
variety of Life on our planet

In Scotland we have :

62 species of mammal
160 species of fish
325 species of bird
1559 species of vascular plants
30000 species of invertebrates
12 reptiles & amphibians
12000 species of fungi
266 slime moulds
889 mosses & liverworts
20000 species of algae
1459 species of lichens

BIODIVERSITY OF SCOTTISH INSECTS

The insect fauna of Scotland is much neglected in relation to birds, mammals and plants. Yet there are more insect species in Scotland than any of these groups: insects are very biodiverse.

Part of the reason why insects have been neglected is that few entomologists have ever been resident in Scotland. Furthermore, entomologists visiting Scotland tend to go to particular sites to collect particular rarities; Strathspey is a favourite. However, when other areas are visited exciting finds invariably result. For example the visits by F.W. Edwards and his co-workers to the tops of Perthshire mountains in the 1930s discovered several species new to science.

Insects in Scotland have various distribution patterns in relation to the rest of Britain. There are 27,000 insect species in the British Isles of which 1400 are confined to Scotland. A high proportion of these are rare and included in the Red Data Book for Insects. It is a problem to know, however, whether these species are truly rare or whether the lack of records is due to neglect.

In a study of a RDB1 hoverfly, *Callicera rufa* we discovered a new way to record this species, using the larval stages which occur in rot-holes in pine trees.

Looking for larvae rather than adults we were able to show that it was present all over the Highlands and certainly not endangered. Here is an example of a species that has suffered from neglect, but thankfully in terms of need for conservation there isn't a problem. But not all Scotland's rare insects are like this.

A species that does appear to deserve its RDB1 status is the hoverfly, *Hammerschmidtia ferruginea*. This species breeds under bark of fallen aspen and following our survey, again relying on larvae, we found it only in a few sites in the north of Scotland. It shares its microhabitat with an amazingly rich and varied group of very rare and poorly known beetles and flies, many of them occurring in the Red Data Book. Alone, insect conservation in Scotland would be given a huge boost if just this one community of rare and specialised species were to be conserved. These two studies, one not confirming and one confirming the Red Data Book, show up the urgent need for work on Scotland's apparently rare insects.

With ice-age relicts on mountains, warm-climate refuge species in the lowlands, species with unique life histories and an increasing number of species that now only occur in Scotland having become extinct in the rest of the British Isles, Scotland's insects are becoming an important focus for biodiversity initiatives and conservation.

GRAHAM E. ROTHERAY

BADGER WATCHING

Snapdown Farm, in Central Devon, is well placed for exploring the natural history of Devon, being just south of Exmoor and east of Braunton. The farm has a small park with 12 stationary caravans, and boasts a Nature Trail through a badger wood. One evening I visited the badger wood, listening to chiffchaff, jay and later, an owl, and trying not to give my presence away by snapping twigs. There was no breeze, the daylight was fading, and my hopes of seeing badgers were high.

Stopping at the foot of a wooded slope I became aware of 3 cubs grubbing for earthworms some 20 yards above me. They did this for a few minutes until a larger badger, whom I took to be their mother, came down toward them from higher up the slope. She grunted and squealed as she greeted the first of the cubs and continued her charge toward the other two who joined her progress downhill. It first occurred to me that the badgers was coming very close, and I then realised that the sow was trotting straight at me.

I did nothing; she continued and stopped suddenly at my feet. There was no moment of hesitation or uncertainty. She turned and ran back uphill, leaving two confused cubs who eventually followed her, along with their sibling, when they scented me a minute later.

The episode was unforgettable for me and probably also for the badger. It showed how much badgers rely on scent rather than sight, and that the mother, in her fright, thought of her own safety rather than try to warn her cubs of my presence. Had the cubs been smaller, she may well have tried to collect them or been more aggressive.

Before fading light made me leave the wood I saw another badger who 3 times chased his own tail in play as a diversion from grubbing for earthworms. I last saw the cubs as silhouettes against the pale sky at the top of the slope.

DAVID ADAMSON



WINTER GNATS

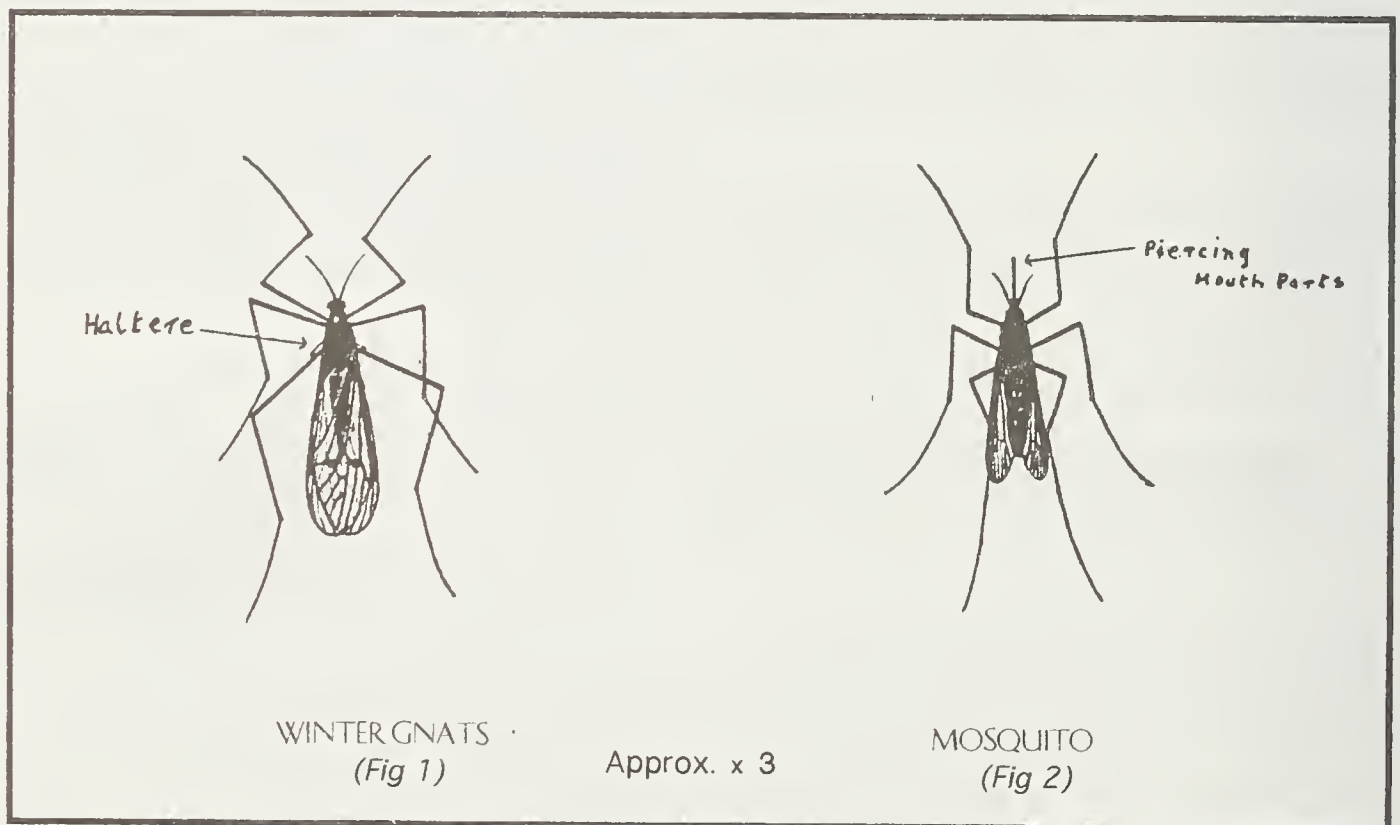
A question I am frequently asked on an outing during the winter is "what is that insect?". The insect referred to is the Winter Gnat. After naming the insect I hurriedly add "but they don't bite".

The Winter Gnats are a group of flies belonging to the family Trichoceridae of which there are eight species in Britain. Often, on mild calm days during winter, Winter Gnats can be seen dancing up and down in swarms very reminiscent of gnats and midges.

The Winter Gnats are delicate insects having slender bodies and long legs (*fig 1*) very much like small Crane Flies.

One distinction between these two flies is in fact that, when handled or caught by predators, the legs of the Crane Flies readily break off. This is not so in the Winter Gnats.

The insects can be seen throughout the year. They are abundant in the spring and autumn and less frequent during the summer. The larvae live in and feed on decaying vegetable matter such as leaf-mould. The mouth parts of the adult fly are very poorly developed and therefore the insect is unable to feed in the adult stage of its life cycle. This is in sharp contrast to the mosquitoes (*fig 2*) which the Winter Gnats outwardly resemble.



Halteres

The drum-stick like organs on the fly's thorax are halteres, which True Flies (Diptera) possess. These are particularly noticeable on the Winter Gnats and are a feature of all Diptera. The Diptera can be distinguished from practically all other insects by the possession of only one pair of wings. The halteres are said to be the modified hind wings which most other insects possess.

The halteres gyrate while the fly is in flight. This assists the flight and equilibrium of the fly.

ENAGILLESPIE

17th EUROPEAN COLLOQUIUM OF ARACHNOLOGY 14th-18th July, 1997

Organised by the British Arachnology Society, the Colloquium was held at the University's Pollock Halls of Residence where delegates from 20 European countries as well as from the USA, Australia and Egypt met to attend 4 1/2 days of talks and 1 1/2 days of field trips. An exhibition of posters explaining the current project work of some of the participants ran through the week.

The subject of the lectures was wide-ranging and could be classified roughly as follows, with some samples of content:-

- palaeontological - the role of arachnids in Devonian terrestrial ecosystems.
- technical - the mechanics of air movement detection by sensory hairs or trichobothria.
- ecology - of single species, field studies in various habitats.
- sexual - male/female size, dimorphism, sperm competition as an evolutionary force.
- taxonomic - Systematics, revisions and redescrptions.

One of the talks struck me as providing a new challenge for our 'Nats' fungi enthusiasts. Some Dutch arachnologists have checked over 30,000 dune spiders for attached organisms and have found the most common to be small fungi.

Interesting and informative as the talks, posters and meeting up with fellow enthusiasts were, the most exciting outcome for me was the discovery of a spider species new to Britain, in scree in Holyrood Park. Neon robustus, a small jumping spider, was collected and recognised by a Swedish delegate familiar with the species, known previously only from South Sweden and Finland.

A half day field outing on the Wednesday to the John Muir Country Park at Belhaven on a sunny day was noted more for the display of diving gannets than for the collecting of arachnological specimens. A full day outing on the final Saturday took us to the Queen Elizabeth Forest Park at Aberfoyle and then to the Glenturret distillery at Crieff, a fitting end to a week of stimulating experience.

JIM STEWART

ADELA REAUMURELLA: THE DANCING MOTH

In late April in pouring rain in a wood near Cirencester, Mary Clarkson and I noticed a small golden moth or fly crouched disconsolately on a twig. It had the most enormous antennae that I had ever seen - about twice the body-length. I tried to take a photo but it was too dark and the result was pretty blurred. However imagine my surprise when, a fortnight later in Leicestershire, I noticed a group of similar "flies" dancing on the edge of a small wood. They held their bodies horizontally but the antennae pointed upwards. and both their wings and the tips of the antennae sparkled in the sun.

I was lucky enough to meet up with Keith Blance later in the year and described the creature: he knew at once what it was - a type of Longhorn Moth, Adela reaumurella. The males dance in the spring to attract females, which are similar but have shorter antennae (merely the same length as their bodies).

Apparently they dance in Scotland too. The larvae feed on fresh leaves in summer, decaying vegetation in winter, and pupate in spring. There is a reference to Adela in the old Oxford Book of Insects.



JACKIEMUSCOTT



ADDERS IN EAST LOTHIAN

"I have never seen an adder" said Lesley in January 1997. "Do you think we might see one this year?" Lesley is our newest SWT East Lothian Committee member, and one of the most active. Woodhall Dean SWT Reserve provides as good a chance of a sighting of adder as anywhere else in the Lothians.

One calm sunny mid-March day I was threading my way through tall whins on a steep south-facing slope when I chanced on an adder coiled up and basking sleepily in the sun. As I stopped, then circled round it, it never moved but carefully watched me with alert eyes. In retrospect I realised that its winter hibernaculum, a rabbit hole or under a mass of thick whin, must have been very close. At another site, where a stone dyke disintegrated in an open south-facing area, I similarly found another large adder early one April. We have had the occasional sighting on a sunny path but, in truth, hadn't given the matter much thought.

This year we really tried. One slithered away from me into thick bracken and Lesley arrived too late! Then Betty disturbed one in thicker bracken and this time we had a look at a nicely marked body with its head in the vegetation into which it eventually disappeared. So far not very good! However at East Lammermuir Deans, I, well ahead of the others, got a knot of what turned out to be 3 adders inter-coiled on the track above a steep slope. Two stayed till Betty and Lesley arrived before they too slithered off. We stopped for lunch and then carefully reapproached and looked around and there were the two of them still inter-twined and in full view. Lesley had achieved her ambition!

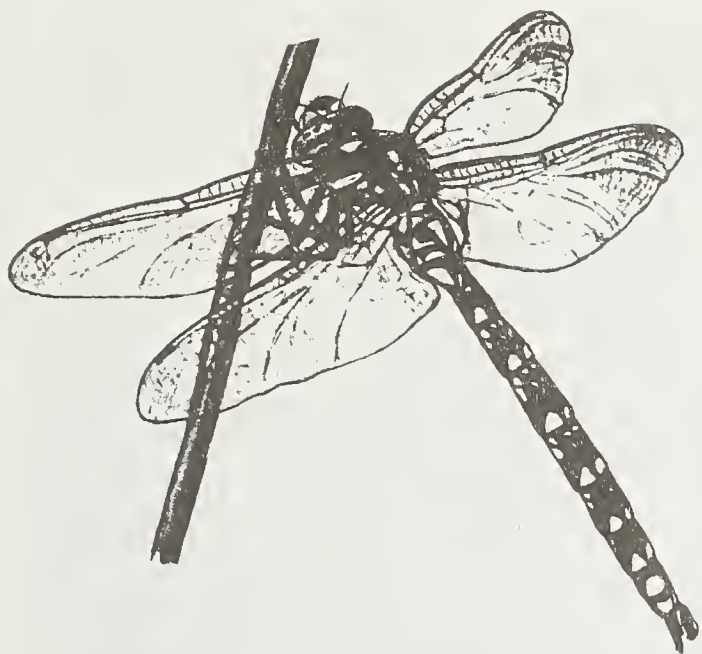
Back at the stone dyke in Woodhall Dean where we were tending some 350 newly planted trees on an adjacent slope, Lesley made regular careful visits and in late summer saw an adder regularly always in the same area. It was a large stout female which, from our by now extensive reading, we pronounced to be pregnant and ready to deliver young around September. Sadly we eventually lost contact with the beast perhaps because of the indifferent weather during our visits.

There are more questions than facts concerning our brief contacts with these adders. What were the three at East Lammermuir Deans in August doing? Was it some form of courtship behaviour or a social gathering near a hibernaculum? Presumably the mid-March and the stone dyke sightings were in areas where they spend the winter. But we have only seen one individual at each site and the hibernaculum is reported to be communal!

We are planting and protecting trees in many parts of the south-facing bank of the Reserve where there is a lot of very thick bracken and a in a few areas where the bracken is more straggly or non-existent. Adders are not all that common in the Lothians so we have an obligation to ensure that the habitats least suited to their needs are the places where we plant our trees. From the literature and our few contacts with them in the field they seem to prefer sheltered sunny spots, among mature whin, shorter vegetation or perhaps in thinly growing bracken where cover and exposure to the sun are inter-mixed. Large areas of planted trees should have extensive glades not only for snakes but also for lizards, butterflies and other invertebrates. Extensive thick bracken cover with its blanket of dead vegetation is probably a good target area for tree-planting although weeding will be even more essential than elsewhere.

Looking back, although we saw several adders in 1997, we still know practically nothing about them. "I have never seen a baby adder" said Lesley! Perhaps in 1998?

BOB SMITH



SOUTHERN HAWKER IN MULL

Bob drew the pond-net lightly over the surface of the detritus and found he had caught 4 more similar small Aeshnid larvae and some Large Red Damselfly larvae.

Further searches along the shore revealed 2 more similar pools both having similar dragonfly larvae. Some of these were final instar Aeshnids which we identified as Southern Hawkers due to emerge in a week or two. Obviously these pools had been used as breeding sites over several years.

In 1997 the annual field meeting of the Scottish Entomologists was held one weekend in late June in Mull. Unlike East Scotland, Mull had suffered a drought and we had difficulty finding wet places suitable as breeding sites for dragonflies. During the evening of the first full day in the field, Garth Foster, a well-known water-beetler, gave us a small dragonfly larva for identification. With its long body, short legs and big eyes it was obviously an Aeshnid larva but equally it was not Aeshna juncea, the Common Hawker, as the base of the lower lip or labium was much too narrow. The choice lay between A. cyanea, the Southern Hawker, and A. caerulea, the Azure Hawker, both of which have a narrow labium but neither of which had been recorded from Mull. Garth told us exactly where he had found the larva. Incredibly it was in a rock-pool on the shore just above high winter tide mark.

Next day we visited the site and found the pool just as Garth had described it. Apart from a tiny patch of sedge the pool was bare of vegetation. Beneath about 30cm of water the only vegetation was decaying blown wrack from the shore.

We had never considered rock-pools as dragonfly habitat before, thinking that they would be much too brackish. However the previous year we had heard from Pat Batty in Kintyre that she had seen Southern Hawkers there flying by the shore but couldn't think where they could be breeding. The only pools in the area were rock-pools which she had dismissed as unsuitable!

When we told her of the Mull dragonflies she went larva hunting in the rock pools and found to her delight that that was indeed the breeding site of the Southern Hawkers. One of the pools she had seen the previous year held only 30cm of water but on lifting some stones from the bottom - there were the Southern Hawker larvae clinging to the underside of the stones just like Stone-fly larvae. Talk about leaving no stone unturned; you never know what you may find! Just remember to put the stones back the way you found them!

BETTY SMITH

AMATEUR NATURALISTS

Botany and Ornithology have always been the Natural History subjects to attract the greatest number of amateur naturalists. These amateurs come from many different backgrounds, both kings and commoners, but, sadly, only a few are remembered today.

One of the earliest amateur botanists was James IV, who, outside his kingly duties took an exceptional interest in plants, particularly herbs, and their uses in the treatment of diseases. His interest went beyond that of his contemporaries, the majority of whom would have some basic knowledge of the subject, as it was considered part of a person's general education. He is remembered today for giving his royal blessing in 1505 to what is now the Royal College of Surgeons of Edinburgh. Also, he was the last Scottish King to speak Gaelic.

Later that century we have Sir Walter Raleigh who had a fascinating lifestyle - seafarer, explorer, courtier, and in his youth, a pirate. He must have been something of a botanist to have had the knowhow to bring the potato and the tobacco plant back to this country.

Next time you buy a Williams pear, turn your thoughts to the village school in Aldermaston. On the wall outside is a plaque stating that the pear originated in the schoolmaster's garden. The further cultivation of the pear was taken over by a local nurseryman who named it the Williams Pear. Details of its origin are given in a letter from William Hooker F.R.S. published in the Transactions of the Horticultural Society of London (1817). To quote from his letter - "This pear.... called Williams Bon Chretien...sprung from seed in the garden of Mr. Wheeler, a schoolmaster at

Aldermaston. Grafts have been extensively dispersed, and many trees are now in Mr. Williams nursery."

Through the years the Church has been a fruitful source of amateur naturalists. One of the best known is Gilbert White who was born at Selborne in 1720. His grandfather, also Gilbert, was the local clergyman, and when he died in 1728 his widow moved into a house known as The Wakes. Young Gilbert and his parents also moved into this house and it became Gilbert's home for the rest of his life. He trained as a priest and was ordained in 1746 and obtained a curacy in Hampshire where his duties were very light, enabling him to spend most of his time at Selborne. Future curacies seem to have followed the same pattern, where he did not have to spend undue time on his parishioners, and could continue his gardening and natural history interests at Selborne. In 1851 he started keeping The Garden Kalendar and this along with his copious diaries became the basis of his book 'The Natural History of Selborne'. Entries in the diaries also included family news and one such entry is worth quoting. "Mrs Edmund White brought to bed of a boy, which has increased the number of my nephews and nieces to 56. One polyanth stalk produced 47 blossoms."

During Gilbert White's lifetime George III came to the throne (1760). George spent his childhood with his parents, Frederick, Prince of Wales, and Augusta in the family home at the White House, Kew. Frederick was a passionate gardener, and along with his friend Lord Bute, brought back from abroad and cultivated many new species at Kew. Frederick never came to the throne as he died after being struck on the head by a cricket ball. His widow continued to expand the garden as did George III and his wife Charlotte who both loved Kew. George's interest however spread wider, into the countryside, farming and crops, which earned him the nickname Farmer George. He also added rare botanical books to the Library at Windsor.

The White House is no longer there, but the famous Kew Gardens now belong to the nation. George III died in 1820 by which time Charles Darwin had been born. Darwin was born in 1809. His father was a doctor and his mother a daughter of Josiah Wedgwood, so he probably had no financial worries throughout his life! According to available accounts he wasted his time at school, but at an early age was collecting items of interest. In 1825 he came to Edinburgh to study medicine but stayed only two years, finding the teaching poor and being badly upset by operations undertaken without anaesthesia. Next he decided to train as a clergyman and went to Cambridge in 1828. As in his earlier days he wasted much of his time and graduated on minimum work and class attendances. He was said to be very bad at mathematics. However, much of the time he was supposed to be wasting was spent in the company of some of the leading naturalists and geologists in Cambridge and he was beginning to make a name for himself. After finishing his studies and while waiting to be ordained, the invitation came to join the Beagle on its lengthy voyage, which lasted from December 1831

to October 1836. If, instead of sailing on the Beagle, he had been ordained, he might have remained an amateur for the rest of his life, under circumstances rather similar to Gilbert White's.

Living at much the same time was a French missionary, Pere Armand David, who, in 1862, was attached to a theological college in China. He was a great traveller and plant collector, and an expert geologist, ornithologist and zoologist. He obtained permission from his religious order to leave his teaching post and travel in southern Mongolia, along the Yangtze River and overland to the Tibetan border. Several flowering plants now incorporate his name, as does the Handkerchief Tree (*Davidia involucrata*). He was also responsible for rescuing a near extinct deer, only found in the Imperial Hunting Park at Beijing. Not long after a few deer had been brought back to Europe the Chinese herd was wiped out during riots. Pere David's Deer can now be seen in many zoos and they have been re-established in China. An unkind description of the deer says that they have the gait of a mule, the hooves of a reindeer and the bray of a donkey.

The majority of plant hunters last century and early this century were professionally trained and were sent abroad under the auspices of well-known gardens. There are, however, one or two exceptions.

Reginald Farrer was born in Yorkshire. He spent much of his adult life travelling in the mountains of Europe, in Japan and Ceylon, and along the Tibetan border. He was responsible for bringing back *Viburnum fragrans*, *Clematis tangutica* and *C. macropetala* to this country. He died at the early age of 40 from pneumonia.

George Sherriff was a professional soldier who later joined the Consular Service. Latterly he joined up with Ludlow on plant collecting expeditions. When he died in 1967 he left behind in Kirriemuir a wonderful garden full of treasures he had brought back to this country.

Beatrix Potter was born a year before George Sherriff died. Her fame as a writer of children's books has overshadowed her exceptional qualities as an amateur naturalist and artist. She spent summers as a child in Perthshire, and many of her beautiful and accurate paintings of fungi are based on material collected there. Dr. Mary Noble, through her researches, has done much to give Beatrix Potter her rightful place amongst famous amateurs.

Finally I would mention the Rev. Keble Martin. Many of us will have copies of the Concise British Flora with nearly 1500 species illustrated by him, and which was published in 1965. Once again the Church has given us an outstanding amateur naturalist.

ELIZABETH FARQUHARSON

ROSLIN GLEN

Roslin Glen, as a whole, represents the most diverse and largest remaining example in Midlothian of the ancient Oak, Ash, Elm woodland that was once the principal vegetation type in lowland Scotland. It has survived into this century due to the steep-sided river valleys making timber extraction difficult. In the last 30 years however, much has changed. The old oak woods above Penicuik in the Estate were felled and replanted with conifers; an area downstream by the Maiden's Castle was clear-felled and not replanted; much of the Hawthornden Wood was felled and only partly replanted. Bit by bit the ancient woodland was being destroyed.

In 1980 part of the Glen was leased by the Scottish Wildlife Trust from the Commissioners of the Crown Estates. This SWT Reserve falls within the Roslin Glen SSSI. It is bounded to the NW by the River Esk, to the S by the disused railway, to the W and SE by fields and to the NE by a burn adjacent to the Hawthornden Estate. There is a management plan, updated every five years and a management committee who see to it that the plan is implemented. The wood is semi-natural, ie management has taken place in the past with, for example, introduction of non-native species such as Sycamore and Beech.

The primary objective of the management plan is to conserve and enhance the ancient mixed Oak woodlands. Of the introduced, non-native species, Sycamore is the greatest threat through invasive regeneration and dominance over native species. In the absence of successful regeneration of Oak and the recent death of Elm caused by Dutch Elm disease, non-intervention would have led to continued degradation of the native woodland.

Practical management involves removal of all Sycamore, planting of native trees in protective baskets and subsequent weeding and care of these trees. Bird and bat boxes have been put up and are well used. During 1992-93 dead Elms and adjacent large Sycamores were removed by contractors from two accessible parts of the wood. These areas have now been entirely replanted and the young trees are growing extremely well.

Vandalism, particularly fly tipping, is a never-ending problem and regular "clean-ups" take place. The management work is done by individual volunteers, the Lothian Wildlife Group, SWT Employment Training teams and the Lothian Conservation Volunteers. Biological recording is carried out and opportunity is afforded to the University et al for research.

As our visit on 21st May followed a prolonged wet spell we kept to 'made' paths. Up the road through the middle of the reserve the ground was carpeted with Wood Anemones and Bluebells - indicator species of ancient woodlands. Along the disused railway line we were able to practice our bird song identification and see something of the tree planting work. Moving down into Powdermill Glen managed by Midlothian District Council, Stinkhorn Fungus made its presence smelt near a magnificent patch of Blackthorn. Grey Wagtail was spotted by the bridge. We could appreciate the different management objectives in Powdermill Glen. Whereas the SWT reserve is managed for wildlife conservation and the restoration of the ancient woodland is being attempted, the Powdermill Glen is primarily managed for people to walk on man-made paths ie for recreational use.

BETTY SMITH

Wood anemone
Anemone nemorosa



Bluebell
Endymion non-scriptus



NEWHAILES HOUSE

The National Trust for Scotland (NTS) have recently acquired Newhailes House (and the remaining part of the Newhailes estate) on the fringe of the erstwhile fishing village of Musselburgh. The purchase of the property was made possible by major grants and donations received from NTS members and other interested members of the public. There remains a shortfall from the final total of £2.7 million.

Newhailes (then named Whitehill) was built in 1686 by the distinguished architect James Smith (whose reputation was established by Dalkeith Palace) for himself and his 24 children! When James Smith went bankrupt in 1707 it was purchased by Sir David Dalrymple and much of the interior of the house is the work of his son James. The house and estate have remained in the Dalrymple family until the death of Sir Mark Dalrymple. Sir Mark's widow, Lady Antonia Dalrymple, has now moved to a house within the grounds and it is her wish that the property and the grounds should be conserved.

Newhailes is best known for the period of 'The Enlightenment' in the eighteenth century. During that time the member of the family at Newhailes was Sir David's namesake, his grandson David Dalrymple (1726-1792), who became Lord Hailes and the writer of *The Annals of Scotland*. There are contemporary accounts of the superlative qualities of his library at Newhailes with people such as the philosopher David Hume being glad to borrow books from it. The books of that library were given into the care of The National Library of Scotland in 1979 but it is hoped that the appropriate arrangements can be made for their security, temperature and humidity so that they can be restored to the house.

Extensive records and plans of the planting of the grounds exist but, at the present time, the gardens and surrounding woodland are derelict with little apparent evidence of that care and interest. A substantial 'Grotto' was constructed and extensively decorated with shells (about 1774). Although much of the Grotto building still remains (and another named the 'Tea House') the shells are now few and hard to find.

Prior to conservation and restoration, the history of the house and estate grounds is being extensively researched and the suggestion was made to the NTS that the Edinburgh Natural History Society could be involved in a survey of the grounds before major changes were made to them. This suggestion was welcomed and in late November, soon after the appointment of a Ranger for the property, several members of the ENHS visited the grounds in order to record items of natural history interest. Considering the time of year, a surprisingly long list was compiled and has been passed on to the Ranger: the list contained plants, trees, birds, mammals, spiders, fungi, slime moulds and even one ladybird.

It is intended that the survey and recording of the flora and fauna of the grounds will be a continuing commitment by the ENHS throughout the restoration period. It is hoped that at least two general natural history walks for ENHS members can be arranged in the 1998 Spring and Summer programme. The grounds are not yet open to the public so please get in touch if you would like to be involved in the regular detailed survey of this interesting estate which has remained untouched for so many years. The Society has the opportunity to contribute to this important venture during the changing seasons and the exciting period of restoration and recovery.

EUNICE McA. SMITH



KINDROGAN FIELD CENTRE NATURAL HISTORY SOCIETY WEEKEND EXCURSION

31st October-2nd November, 1997



It was a bright and starry night as we arrived at Kindrogan. So bright and starry, in fact, that one of our number had her telescope on the stars and we all dropped our luggage on the way in to count the moons of Jupiter. We gathered in the lab before dinner and had a talk on the Isle of May by Reg Mitchell. After dinner we enjoyed the library and had some reading out loud from Queen Victoria's journal recounting her visit to Kindrogan.

The next morning we issued forth, those of us without baskets each clutching our fungus kit, kindly provided by Mary Clarkson. (Take one carrier bag, and add an ice cream container to keep your collection from being all squashed together.) After looking at the remains of lots of orange-peel fungus in the grass we potted up through the woods gathering fungi as we went. Fortunately the weather provided a good collection and it was pleasantly mild and still in the plantation. We stopped off at the little graveyard which belonged to the house, visited the people who used to live there, and worked out their connection to one another, and who met Queen Victoria.

When we returned for lunch we took all the fungi out and laid them in family groups, which were labelled. They were a beautiful collection. We ate our lunch inside then hurried out to take advantage of the remaining daylight. We went to the walled garden and a volunteer showed us the work she was doing on starting to restore the garden. We saw the remains of old paths. In the lawn outside we looked at our first moss, Rhytidiadelphus squarrosus. This small moss must be in everyone's lawn and we saw it time and again. It has a reddish stem, and greenish yellow leaves that sharply curve back; the squarrose connection. We went along by the river and came to the plaque marking the spot

we had been reading about where Queen Victoria had had her tea. We didn't want any tea, we were too busy looking at mosses. The damp riverbank had a plentiful supply, but the light was beginning to fade. The last part of our walk was through dense plantation which seemed even darker, but we could still just about make out Rhytidiadelphus squarrosus. Back in the light and warmth we had tea in the lab and laid out the mosses. Andrew Gilchrist inspired us with some lovely slides of an Alpine holiday before dinner. After dinner we settled down to the microscopes and looked at different features of fungi and mosses.

The next morning we packed ourselves up and set off to look primarily at birds. Our first two stops were disappointingly quiet, but Lintrathen didn't let us down and had large flocks of ducks, waders and geese. We set up a selection of telescopes and wandered around them eating our sandwiches, or sitting on the bank. A sparrowhawk was circling overhead and seemed to be briefly joined by a peregrine. Certainly something disturbed the waders on the far side. We exchanged sightings and gradually saw the birds that other people spotted.

After a while we moved on to Stormont Loch, south of Blairgowrie, where we saw shovellers to add to our list. There was an interesting section, presumably cut to find gravel, where we saw thick deposits of waterlain material far from any present rivers. This would have been left by the massive meltwaters draining from the Highlands at the end of the most recent phase of glaciation. We drove on home in the gathering dusk and saw the geese also heading for home, flying in to Loch Leven.

HEATHER MCHAFFIE

BRYOPHYTE WEEK KINDROGAN

WITH MARTHA WATSON

SEPTEMBER 1996

There were eight students on the course, we certainly covered all levels of ability - from very experienced moss recorder to the three absolute beginners (of which I was one). The first two days in the field were very hard work, even for our most accomplished group members; we looked at so many bryophytes, everyone was overwhelmed. During these two days we were in woodlands around the centre and then in Glen Tilt, looking mainly along the water's edge.

The evenings began by working through keys together. Martha would give each of us an unnamed specimen which we all worked through with the same key at the same pace. Martha did not carry on without us all coming to the same conclusion at each step and I gained greatly in confidence.

On Tuesday evening Martha gave us an evening's talk on sphagnum. This was wonderful, giving the inexperienced members a clear way into the subject. Wednesday was then spent high up on forestry land in a quaking bog. We spent this day and the rest of the week using our new sphagnum key.

During the rest of the week we looked at bryophytes in silver birch woodland and mountainous areas - which involved some steep clambering and sliding along river banks.

I found the evenings in the lab very encouraging - with everyone sharing their finds, and looking at one another's microscope slides. We all worked very hard, but none of us had the stamina to keep up with our tutor! Martha was a wonderful teacher, totally dedicated to her subject - but by 11pm we would slowly slide away from our lab, leaving her working on into the night.

I regard myself as very fortunate to go on this course, and greatly enriched by it. Many, many thanks go to the Natural History Society for funding my trip.

Recommended Reading:

The Moss Flora of Britain and Ireland

The Liverworts of Britain and Ireland

both by A E Smith and publ by C U Press

Handbook of European Sphagna

publ by Institute of Terrestrial Ecology, HMSO

LIZZIE COLLYER

KINDROGAN FIELD CENTRE

Enochdhu, Blairgowrie. Perthshire, PH10 7PG 01250 881286

WHERE IS IT?

Kindrogan Field centre is situated in the heart of Perthshire, in an area of inspiring landscapes, with a fascinating history. It is rich in wildlife with habitat types ranging from undisturbed alpine plateaux to native pinewoods. The Centre is easy to reach being only 10 miles from Pitlochry, a town that is on main rail, bus and road links. It is under 2 hours drive from Edinburgh.

WHAT FACILITIES DOES IT HAVE?

Comfortable accommodation is in the Victorian country house and converted stables. Rooms are single, twin and family, with hot and cold water. The public rooms are Library, various teaching rooms and laboratories, lecture rooms, coffee lounge and bar. The kitchen provides excellent home cooking, served in a friendly atmosphere. There is a drying room and equipment room.

WHAT COURSES DOES IT OFFER?

There is a wide variety of interesting courses:

Spring Birds
Scottish Mammals
Introducing Grasses
Insect Photography
Introduction to Fungi
Summer Flowers...and many more.

Ask at a NATS meeting for the brochure.

Why not get together with a few friends to go. It's well worth it.

RAINFALL in CORSTORPHINE

Daily readings of rainfall have been taken in Corstorphine since 1966, and this year's note in the series summarises results for the 30-year period 1966-1995, as well as discussing the readings for the latest year, 1997.

1966-95

Over the 30-year period the annual average rainfall was 683mm. (a little under 27in.), but with wide fluctuations around this, the wettest year (1985) seeing nearly twice as much rain as the driest (1972). A measurable amount of rain fell on precisely 1 day in 2. Seasonal variations were on average quite small, but Spring (March - May) was somewhat drier than the other seasons and Autumn (September - November) somewhat wetter. April, followed by February was the driest month, and October followed by September the wettest. However, the proportion of days with measurable rainfall was lowest in June and highest in January.

Over the 30 years the rainfall tended to increase although the driest period was the early 1970s and the wettest the mid-1980s. 8 out of the first 10 years had below average rainfall, whereas in the final 10 years, 8 were above average. The second half of the 30 years was 15% wetter than the first half, the increase being greatest in the Autumn and Winter but amounting to only 5% in the summer. In fact May and August became drier.

The increase in Scotland was not shared uniformly by other parts of the country. Rainfall was higher in the second half of the period by 24% at Fort William, by 14% at Threave near Castle Douglas and by 7% at Lerwick, but was 3% lower at Haddo House near Ellon.

The increase in Corstorphine reverses an apparent downward trend in the Edinburgh area going back to about 1915 or earlier.

Much of the increase in rainfall over the 30 years appears to be the result of an increase in the frequency of heavier falls rather than any increase in the number of days with rain. The number of days with measurable rainfall was unchanged between 1966 - 80 and 1981 - 95. However, the average annual aggregate of falls of 10mm. or more rose from 220mm. to 312mm., almost the same as the increase in the overall aggregate of 93mm. Variations in the occurrence of heavy falls can also account for much of the fluctuation in rainfall totals from one year to another.

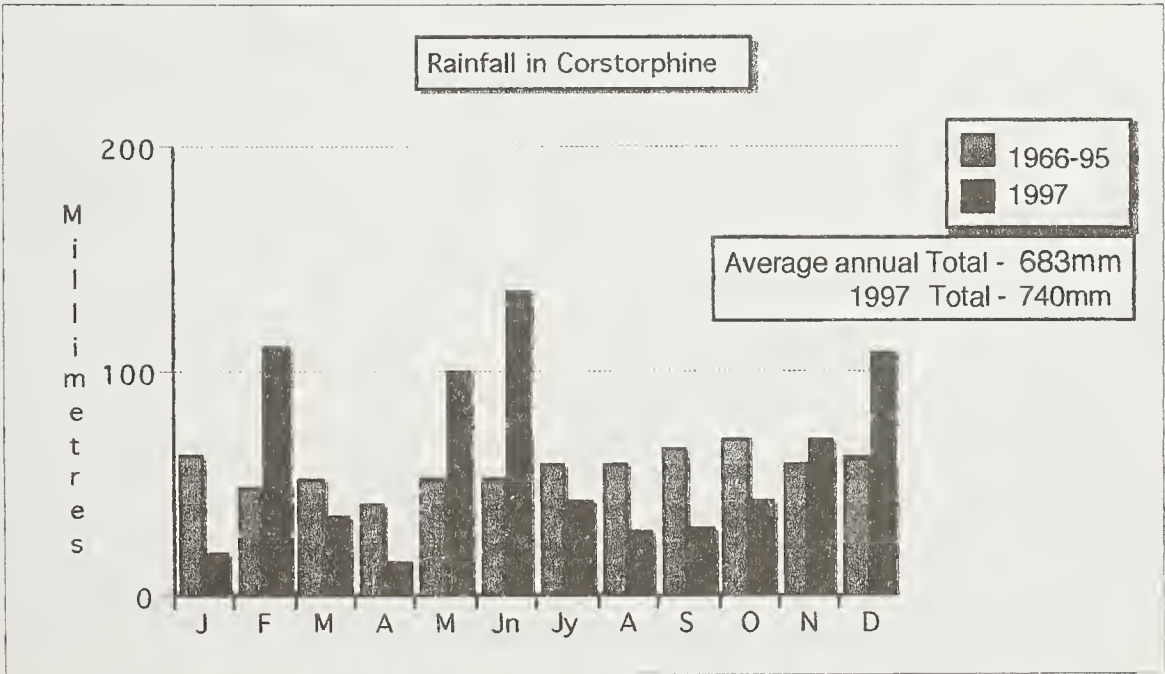
1997

At 740 mm. 1997's total rainfall was somewhat above average. A wet May and June were followed by 4 relatively dry months running from July to October. Otherwise the rainfall did not follow any particular pattern.

The year was notable, however, for its combination of very dry and very wet months. January, April, August and September all had 30 mm. or less, while February, May, June and December had 100 mm. or more. The total rainfall during the 4 very wet months was almost 5 times that of the 4 very dry months. On this measure only 1979 out of the 31 preceding years was (slightly) more extreme.

Like so many recent years, 1997 was decidedly warmer than average. It was also sunnier than average.

MUNRO DUNN



FORTH ISLAND BIRD COUNTS

1997

This year's counts got off to a good start with seas calm enough to allow landings on the first islands at the end of May. However, by June, adverse conditions were causing their usual problems.

Taking totals for all islands covered, most species showed increases over 1996 figures, e.g. Fulmar up 5%; Cormorant up 20%; Shag up 10%; Kittiwake up 25%. Razorbill on the other hand are down 5%. Looking at individual islands sometimes shows a different picture: on Fidra, for example, the counters reported Fulmar down 30%; Shag up 30%; Kittiwake down 5%. The overall trends would seem to indicate a healthy population.

Last year when counting the seabirds (excluding gannet) on the Bass Rock, photographs were used, with some manual counts for checking accuracy. It was felt that a reasonable estimate was obtained though much film was used and many hours were spent analysing the resulting pictures.

This year, certain parts were photographed and other parts were counted manually. In the east and west caves there are dense areas of Guillemot which were photographed and also a quick estimate was made. It is interesting to note that the estimate was 30% less than the figures obtained from the photographs. A similar comparison for Kittiwake showed a 5% difference. Obviously the state of the sea, the speed of the boat, etc., as well as colour and density of the species, plays an important part in the accuracy of the figures obtained. However by using consistent methods the general trend in numbers becomes obvious.

While on the islands, counters also note sightings of any birds which are not in the main seabird count. This year a new species was recorded for the Bass Rock - a pair of Robin with two juveniles.

BILL BRUCE

Summary of seabird counts for the Forth islands, 1997

	Bass Rock	Craig Leith	Lamb	Fidra	Eyebr ought	Inch keith	Carr Craig	Inch colm	Hay stack	Inchm ickery	Inch garvie	Long Craig	May
Fulmar (AOS)	170	205	9	252	0	533	0	256	0	35	203	0	382
Cormorant (nests)	0	130	135	0	0	106	71	0	18	0	0	0	0
Shag (nests)	41	180	65	107	0	25	2	2	2	28	0	0	502
Gannets (nests)	X	0	0	0	0	0	0	0	0	0	0	0	0
Eider (nests)	7	X	X	250	X	X	2	X	1	260	55	5	1191
G B-b Gull (nests)	1	6+	2	3	0	1	0	1	0	1	1	0	9
L B-b Gull (nests)	C34	X	90	501	0	X	2-3	X	0	147	7	0	1540
Herring Gull (nests)	C268	X	90	1289	20	X	52-53	X	21	148	269	0	2856
Kittiwake (nests)	3044 AOS	714	119	298	0	389	0	147	0	0	0	0	6518
Common Tern (nests)	Total: 407												
Arctic Tern (nests)	Total: 630												
Roscate Tern (nests)	Total: 7												
Sandwich Tern	Total: 0												
Razorbill (sites)	177	84	24	103	0	56	0	4	0	0	0	0	3478
Guillemot brds on cliff	4172	789	4400	180 sites	0	45	0	0	0	0	0	0	26711
Puffin (birds)	35	2000	59	594 sites	0	C870	0	65	0	22 sites	0	0	x

Notes: x=no count 0=none breeding AOS=apparently occupied sites
Puffin, eider and gull counts incomplete.

Bill Bruce

CARRICK KNOWE PLAYGROUND DEVELOPMENT

A year has passed since the group formed to plan the development of the grounds. Much of this time has been used by the children to produce work on their ideas and building up a network of people and resources for future activities. We have looked at aspects of planning, fundraising and later management of developments.

Little physical change has taken place but bird nesting boxes and feeders are in place and being observed by groups within the school.

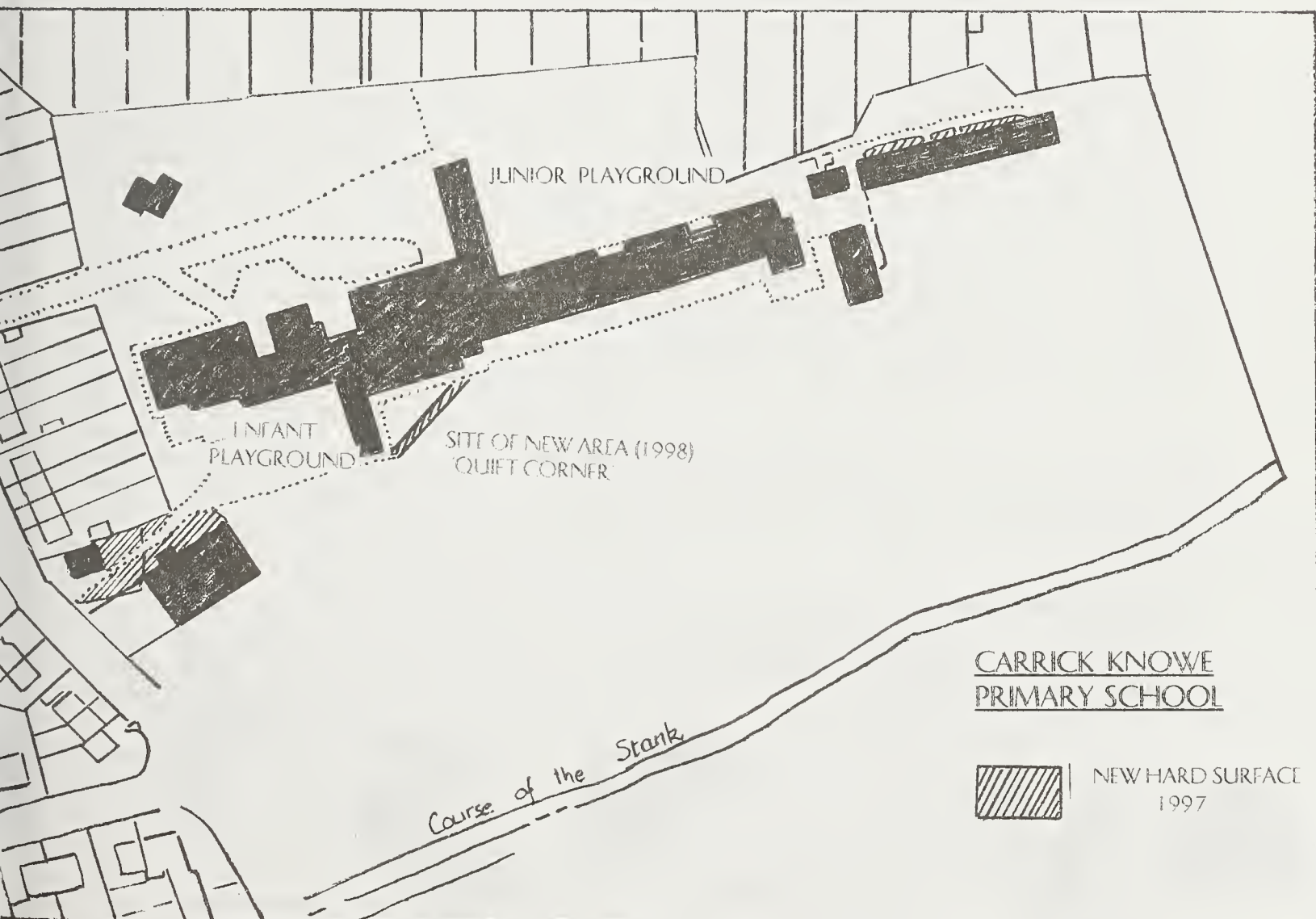
Environmental awareness has been raised; 'appealing' litter bins purchased and an aluminium can recycling project is well under way. An environmental club has formed and looks at issues such as transport - including a 'Walk to School' week with competitions and issuing of safety advice and 'day-glo' armbands.

Following the Dunblane incident, schools are now more aware of safety especially regarding access and identity of visitors. A long look at the school entrance resulted in the expansion of a parent waiting area and removal of some shrubbery. This will later be enhanced by seating and planters.

A triangle of ground has been isolated by a new footpath and will in the spring be developed into an area of seating and planting likely to include birch and some 'native' plants. This work is being undertaken by the Scottish Conservation Project Trust and a local Scout group.

A full longterm plan should be available by Spring '98 and a timetable for different projects. With support from parents and those interested there should be increasing use of the grounds for practical work.

SARAH ADAMSON



A NOTE ON LAURELS

During the NATS visit to Dalmeny on 18/1/97 (See Page 27) we examined 3 ornamental Laurels. These were commonly planted by Estate owners in the past two centuries, to enhance their policies and to provide game cover in their woodlands. They are alien evergreens having similar qualities to our native holly, being hardy, tolerant of shade, resistant to wind and relatively free from insect attack. Moreover, they thrive on most types of soil.

The question was raised whether they are really Laurels. "Laurel" is a general term for various trees and shrubs of similar appearance but unrelated botanically. The Macmillan Encyclopaedia defines laurel as "one of several unrelated aromatic shrubs or small trees with attractive evergreen leaves."

Two of the species we looked at were Cherry and Portugal Laurels, evergreen Cherries of Mediterranean lands, both poisonous members of the *Prunus* genus. The species have glossy leaves which grow alternately on the stem and bear spikes of fragrant white flowers, which are followed by cherry-like fruits which eventually turn black. Cherry Laurel (*Prunus laurocerasus*) has large, leathery, bright green leaves on a stout petiole. When crushed they smell of almonds as they contain cyanide or prussic acid. Broken leaves were used in 'killing jars' by butterfly collectors. Pale green buds appear early in the year in the leaf axils, from which an erect spike of flowers develops, opening in June and July. Large cherry-like fruits develop, each containing one seed. The tree spreads by suckers to form hedges, and suppresses other plant growth.

Portugal Laurel (*Prunus lusitanica*) forms a graceful tree but does not naturalise in the same way as its relative. The main distinguishing feature is the dark crimson colour of its twigs and petioles. The leaves are smaller, dark glossy green, paler below, with long pointed tips.

Creamy-white flowers are much smaller and densely-packed on pendulous spikes; they blossom in late summer. Small berries develop, turning black if not devoured by birds.

The third Laurel we looked at was Spotted Laurel, sometimes called the gold dust plant, and no relation to the *Prunus* species, but *Aucuba japonica*, introduced in the late 19th century.

It was beloved of the Victorians for brightening up dark corners. Aucubas make small, rounded, bushy shrubs. Shiny, dark green leathery leaves grow in opposite pairs, often with yellow spots, blotches or leaf margins. They have a pointed tip, a prominent midrib and a long petiole. Male and female flowers are borne on separate plants; many male plants lack spots on the leaves. Flowers are small, pistillate or staminate, white in colour, appearing in March or April. If both plants grow together, the female shrubs bear small scarlet berries, each containing a single seed. Aucuba species are also poisonous.

To add to the confusion, there is another "laurel" which we did not find on this occasion. This is the native Spurge Laurel, which is neither a spurge nor a laurel, but belongs to the *Daphne* genus. This small evergreen shrub, *Daphne laureola*, tolerates deep woodland shade. Its dark green, glossy leaves are usually clustered near the top of the shrub to catch maximum light. Small, green, four-lobed tubular flowers grow in clusters among the upper leaves and open in February, from which small, green, oval-shaped berries develop. This plant also is poisonous.

The true laurel belongs to the Laurel genus, the sweet bay tree, native of Mediterranean lands, *Laurus nobilis*. Also known as the "Poet's Laurel", its leaves were used by the ancients for making honorary wreaths. Today, its aromatic leaves are well-known as one of the ingredients of the classic "bouquet garni" used in cooking savoury stews; a non-poisonous laurel!

Leaves are alternate, leathery, evergreen and dotted with shining oil glands. Flowers are small, greenish-yellow, often in clusters and the fruit is a berry containing one seed. Male and female flowers are borne on the same plant. It is usually grown as a pot herb in tubs for the patio and brought indoors for winter as it is damaged by frost. A sweet bay tree grows well in a sheltered corner of the herb garden in the former kitchen garden at Hopetoun House, now a Garden Centre.

MARY ROBERTSON



Cherry Laurel
Prunus laurocerasus



SPRING FUNGUS FORAY

AVIEMORE 23-30 MAY

The British Mycological Society held its Spring Foray this year in Aviemore. The weather forecasts for the days immediately prior to the gathering told of hard frosts in the area, so members coming from the South of England came well prepared with plenty of winter woollies, only to be confronted with Aviemore scoring the highest temperatures in the U.K. for most of the week.

Four of the self-catering chalets at the High Range Hotel in Aviemore were used as our base. The first evening was spent in re-organising these: unwanted furniture went into unused bedrooms; tressle tables were brought in, and by bedtime we had four very adequate but crowded labs.

The Edinburgh Nats. were well represented by three adults, one future member (aged 2) and 2 dogs, all of whom decided to stay more peacefully 7 miles away near Boat-of-Garten.

By the end of the week we could have written a tourist supplement on where to eat in Aviemore. The most popular by the end of the week was Harkai, an updated version of the original Happy Haggis, though this name is still on the entrance door handles.

We were a mixed group of professionals and amateurs, all foraying happily together.

Larger fungi (the ones you can see without going down on all fours!) were scarce and in some areas almost non-existent, but it is recognised that the Spring Foray is largely for the benefit of those who like the really small stuff. The combination of hard frosts followed by intense heat and drought made collecting hard work and any damp patch quickly collected a hopeful group, but alas, they usually ended up with more ticks than fungi. At least, Speyside was looking wonderful which was some compensation.

On several days the choice of outings consisted of a low level area (Craigellachie, Kinraig, Coylum Bridge, Loch Morlich, Ryvoan Pass, Loch an Eilein), or a mountain area (the Cairngorms, Craig Meagaidh), to look for Slime Moulds just below the snow line. On one afternoon, after finding little during the morning, a group decided to accompany Roy Watling up the ski road at Loch Morlich to visit a high altitude experimental plot where exotic alpine plants are being monitored by the Royal Botanic Garden.

Although fungi were scarce, the week was well worth while. One learns a lot mixing with others who have widely differing fungal interests, noting other people's technique in the lab, perusing specialist books, and discussing one's own particular problems. It can be encouraging to find that even the specialists may be unsure of naming a species, making one's own lack of knowledge less painful.

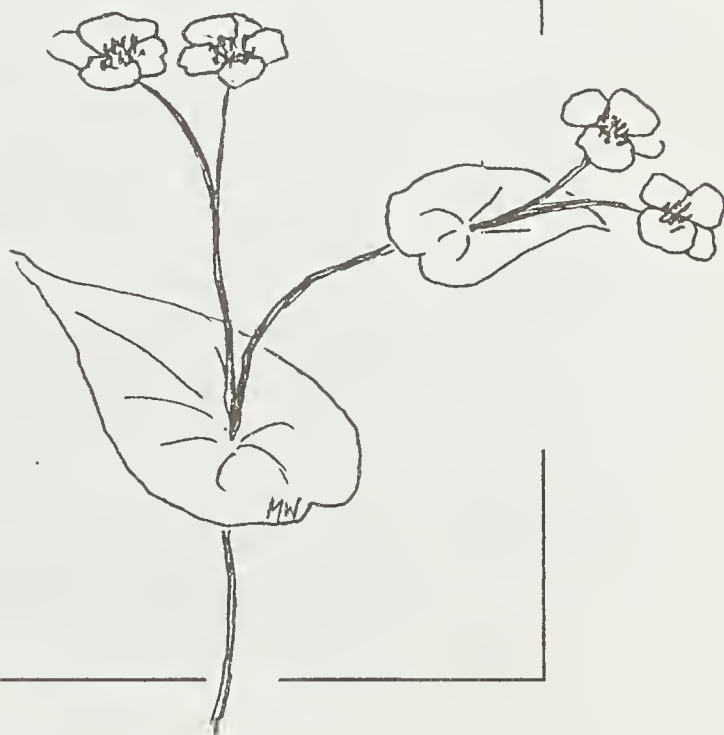
ELIZABETH FARQUHARSON

My habit of leaving any tiny unidentified weed in the garden to grow on until I can recognise it has paid off this year in that I have "raised a plant I have never seen before. It appeared in a drift of periwinkle, and at first I thought it might be a small spurge. But as it grew, I couldn't identify it among the euphorbias, and the presence of an odd-looking leaf encircling a stem aroused a vague memory of the name "Hare's ear". This led me on to "Thorow-wax" in the various Floras I possess, but Clapham Tutin & Warburgh, McLintock, & Keble Martin all stressed the rarity of this unlikely-looking member of the Umbel family. It was not till I came to the Fitter/Blamey book that confirmation of the plant was assured - "Narrow Thorow-wax" (Bupleurum lancifolium) is now commoner than B. rotundifolium in some areas, especially where bird-food is thrown down" - it was within feet of one of the bird-tables!

MARGARET WATSON

The up-to-date name for False or Narrow Thorow-wax is Bupleurum subovatum.

JACKIE MUSCOTT





OBSERVATIONS FOR 1997



The Observers:

S&DA	Sarah & David Adamson	LB	Lyn Blades	DC	Doris Crichton
MC	Mary Clarkson	EF	Elizabeth Farquharson	EG	Ena Gillespie
MJ	Margaret Jamieson	GM	George McDougall	JeM	Jean Murray
JM	Jackie Muscott	CR	Charles Rawcliffe	MR	Mary Robertson
ESR	E. Scott Robertson	ES	Eunice Smith	SS	Sandra Stewart
MW	Margaret Watson				

Beginning of JANUARY

	Weather very cold with snow on ground. 3 Redwings in garden at NT216746, eating last of Hawthorn berries ; two Fieldfares on lawn eating apples put out for Blackbirds.	(MR)
2 /1/97	Having seen a Red Squirrel at Saltoun Wood we later viewed a white Squirrel near Gifford. We presume it was an albino Grey as Greys are common in the area and the stature was 'grey-like'.	(S & DA)
14/1/97	Three Long-tailed Tits at the bird table.	(MR)
18/1/97	Two Red-throated Divers off-shore at South Queensferry.	(ENHS Outing)
25/1/97	Three Waxwings on Hawthorn between Blackhall and Silverknowes on old railway line.	(MR + ESR)
28/1/97	Bawsinch & Duddingston Loch - Weasel repeatedly attacked by Magpie, unsuccessfully.	(CR)
29/1/97	Male Blackcap in garden NT 216746.	(MR)

FEBRUARY

8/2/97	A Stockdove settled on the surface of Bawsinch & Duddingston Loch.	(CR)
11/2/97	1 Red-throated Diver at Bawsinch & Duddingston Loch.	(CR)
12/2/97	Last sighting of male Blackcap at bird-table near kitchen door in the Blackford Hill area (first seen 16/12/96).	(MC)



Red-throated Diver

MARCH

2/3/97	Tufted Ducks at Inverleith Pond - 8 males and 4 females.	(CR)
8/3/97	Rookery established for the first time at Bawsinch & Duddingston Loch.	(CR)
8/3/97	Small Tortoiseshell in garden NT 216746.	(MR)
11/3/97	1 Woodcock at Bawsinch & Duddingston Loch.	(CR)
19/3/97	Jay in Hopetoun Woods, West Lothian, near Eastern Approach road. NT 090790	(MR)
21/3/97	Chiffchaff singing at Bawsinch & Duddingston Loch.	(CR)
22/3/97	Waxwings on Sycamore first seen on 30/11/96, then on Hawthorn in Corstorphine. Further flocks and solitary birds seen throughout winter in Corstorphine, the last individual being on 22/3/97 in the grounds of Carrick Knowe School when preparing for the Society's outing. NT 207726.	(S & DA)
25/3/97	1 Kingfisher at Outlet Burn at Bawsinch & Duddingston Loch.	(CR)
30/3/97	Yellow Figwort (<i>Scrophularia vernalis</i>) in flower in Douglas Dene. Last year it began flowering at the same time as the Garlic Mustard through which it grows, and was still there when our excursion visited the Dene on 13th July.	(MW)

APRIL

- 3/4/97 Peacock Butterfly on winter Pansies, Goose Green, Gullane. (MW)
- 4/4/97 Chiffchaff in Craiglockhart Dell. (MR)
- 6/4/97 Lichens at Milkhall Pond: Evernia prunastri; Xanthoria polycarpa. (CR)
- 8/4/97 5 wild goats, including 1 kid, as well as 6 mountain hares each sheltering in the lee of its own hillock by the River Findhorn in its upper reaches. (MC)
- 8/4/97 Blackcap singing; stoat killing young rabbit at Bawsinch. (CR)
- 9/4/97 A pair of Coal Tits started to build in the wooden bird box in a garden in Penicuik but were harassed by Great Tits. Finally they abandoned their nest and a pair of Blue Tits arrived, pulled out all the moss and started again. Great Tits still pestering. They left and another pair of Blue Tits came, settled, built a new nest and reared 7 young. (DC)
- 9/4/97 Chiffchaff in Woodhall Dean (MW)
- 10/4/97 Two spring fungi - Mitrophora semilibera and Verpa conica - seen at Roslin. (EF)
- 10/4/97 Dead female Badger, weight 19lbs, beside the A70 at NT 141662. (EF)
- 10/4/97 Broxburn Woods - large area of White Butterbur (Petasites albus) in flower, with Small Tortoiseshell, Red Admiral, Small White and Orange Tip Butterflies feeding. (Several other Orange Tips seen elsewhere in Broxburn). (MW)
- 12/4/97 Peacock Butterfly seen by the Tweed at Dryburgh. (LB)
- 15/4/97 Mole observed emerging from a hole, Bawsinch & Duddingston Loch. (CR)
- 18/4/97 Dead Badger on Edinburgh Ring Route, probably from Whitehill or Covenanters Wood. (EF)
- 19/4/97 10 Blackcock on the hill a few miles north of Innerleithen. (LB, JeM, JM, MC)
- On a very cold day, an adder curled up on the ground a few yards from St. Mary's Loch. It hissed at us! On the way home a Short-eared Owl flew across a roadside field. (LB, JeM, JM, MC)
- 19/4/97 Recorded at Bilston Glen:
Centipedes: Tachypodoiulus niger, Ommatoiulus sabulosus, Cylindroiulus punctatus.
Woodlice (Slaters): Philoscia muscorum, Oniscus asellus, Trichoniscus pusillus.
None of the aforementioned is uncommon.
Beetle: Byrrhus pilula: this creature has the ability to tuck legs and antennae into grooves beneath the body and to appear dead. (CR)
- 24/4/97 On a sunny morning at Roslin one Bee-fly, most likely Bombylius major, was busy on a patch of Veronica filiformis. (EG, LB, SS)
- 25/4/97 Blackcap and Willow Warbler in Ravelston Wood. (MR)
- 25/4/97 The fungus Mitrophora semilibera appeared again this year at the same site on disused railway line near Ravelston. (EF)
- 26/4/97 Very cold with N.E. wind. At the Hirsell, Coldstream, about 30 Goosanders on the loch; first Swallows seen; and a Nuthatch in Dundock Wood; Garden Warbler heard. A Katsura tree (Cercidiphyllum japonicum) had been frosted.
At Springhill on River Tweed near Coldstream, Common Sandpipers and two Ringed Plovers. (ENHS-Hirsell Outing)
- 26/4/97 A type of Morel - Morchella elata on Sluggan Pass, Speyside. Striped ladybird (Myzia oblonguttata) also seen. (EF)
- On return journey to Edinburgh an exceptional number of road casualties seen - 5 Mountain Hares, 1 Fox, 1 Stoat, several Rabbits, 2 Pheasants, and other unrecognisable corpses. (EF)
- 27/4/97 1 Night Heron - Inverleith Pond (CR)
- 27/4/97 Thousands of Fritillaries (Fritillaria meleagris) by the infant River Thames at North Meadow, Cricklade. 80% of the British population are on this site. (JM, MC)
- 28/4/97 A fall of Willow Warblers in Hopetoun Parkland NT 090790. (MR)
- 29/4/97 Water Louse (Asellus aquaticus) in Duddingston Loch. (CR)

MAY

- 1/5/97 Orange Tip Butterfly in garden NT 216746 (MR)
- 2/5/97 At Tentsmuir Point, Shepherd's Cress (Teesdalia nudicaulis) found on a sandy patch at woodland edge. (ENHS Outing)
- 4/5/97 Ruddy Duck on Duddingston Loch. (CR)

7/5/97	Cuckoo seen at Abbey St Bathans.	(MC)
13/5/97	<u>Pyrrhosoma nymphula</u> , 2 on vegetation away from water at Duddingston Loch.	(CR)
14/5/97	First Swifts seen over Edinburgh.	(MR)
16/5/97	Wandering Snail, <u>Limnaea peregra</u> (pereger), Bawsinch & Duddingston Loch.	(CR)
17/5/97	Spanish Fir (<u>Abies pinsapo</u>) at Mertoun, near St. Boswells Parish Church and a large Wellingtonia (<u>Sequoiadendron giganteum</u>) on opposite side of road.	(MR)
21/5/97	A chance visit to the stretch of the Union Canal NW of Winchburgh (where dredging is currently taking place) revealed two sources of excitement: the Tufted Loosestrife (<u>Lysimachis thyrsoiflora</u>) was in bud (most years it does not flower) and a large hatch of Azure Damselflies (<u>Coenagrion puella</u>) was taking place. A return visit on 9/6/97 was rewarded by seeing the Loosestrife in full flower, and a count of over 100 Azure Damsels on just one patch of reed - there must have been thousands along that stretch of canal. Later in the year, further west around Polmont I had 2 sightings of Darter dragonflies; the second was bright red and therefore recognisable as a male Common Darter (<u>Sympetrum striolatum</u>), a species currently moving north into Scotland.	(JM)
22/5/97	Star of Bethlehem (<u>Ornithogalum umbellatum</u>) at Bawsinch.	(CR)
30/5/97	Small Copper Butterfly in garden. NT 216746	(MR)

JUNE

17/6/97	Hedgerow Cranesbill (<u>Geranium pyrenaicum</u>) at entrance to Braehead Quarry dump site.	(MR)
24/6/97	Butterfly - Common Blue (<u>Polyommatus icarus</u>) at Bawsinch.	(CR)
26/6/97	Water Scorpion (<u>Nepa cinerea</u>) at Bawsinch & Duddingston Loch.	(CR)
28/6/97	Black Tern (<u>Chlidonias niger</u>) at Bawsinch & Duddingston Loch.	(CR)

JULY

9/7/97	Along an overgrown wood-edge path near Burnhead Ford, apparently a recent hatch of Ringlet Butterflies - upwards of a dozen seen in 2s and 3s in the space of 100 metres.	(MW)
16/7/97	<u>Cortinarius traganus</u> , a magnificent large mauve fungus with an unpleasant smell, amongst heather at Nethy Bridge.	(EF)

AUGUST

3/8/97	Swifts on migration hawking insects, early evening: silent, graceful, efficient.	(MR)
5/8/97	4 Common Newt (<u>Molge vulgaris</u>) beneath stone at Bawsinch & Duddingston Loch.	(CR)
6/8/97	The fungus <u>Volvariella bombycina</u> appeared for the third year running on the same tree in the grounds of Craighouse.	(EF)
8/8/97	Very hot day brought out mating swarms of flying ants. NT216746	(MR)
8/8/97	Willow Warblers on migration heard calling softly in suburban garden around Blackhall, Edinburgh.	(MR)
10/8/97	Carcant near Heriot. Flowering Rush (<u>Butomus umbellatus</u>) in a small pond. Rusty-back Fern (<u>Ceterach officinarum</u>) still survives on Heriot Kirkyard wall in spite of pointing work.	(GM)
12/8/97	1 Curlew visited Bawsinch briefly.	(CR)
15/8/97	1 Common Buzzard at Gordon Ness S.W.T. Reserve.	(CR)
16/8/97	Emerald Damselfly (<u>Lestes sponsa</u>); Hoverflies (<u>Syrphus ribesii</u>), on flowerheads at Bawsinch.	(CR)
22/8/97	Vapourer Moths - a large, striking, brightly coloured caterpillar, found on a rose bush in a Penicuik garden. It was placed in a jam jar and taken into the garage. A week later it pupated. The female moth does not have wings but remains a pupa until a male Vapourer moth finds her and mates with her. She then laid many eggs on top of the chrysalis. We are keeping the eggs until next Spring.	(DC)



- 26/8/97 Seen at Bawsinch and Duddingston Loch:
Black Darter Dragonfly (Sympetrum danae) ;
Common Darter Dragonfly (Sympetrum striolatum);
Herald Moth (Scoliopteryx libatrix) ; Smooth Tare (Vicia tetrasperma) ;
Red-eared Terrapin on 'Tyre Island'. (CR)
- 29/8/97 A young Sparrowhawk landed on the West lawn at Hopetoun House to preen.
Immediately it was mobbed by a flock of Pied Wagtails which it ignored .
Then it lifted off at speed, scaring off the Wagtails and flew up to
land in a big Larch. During the last week of August, parent Kestrels
were calling their young from a nest in the wilderness area of Hopetoun,
west of the House. (MR)
- 30/8/97 2 Little Gull; 2 Spotted Redshank; 4 Ruff at Musselburgh Lagoons. (CR)

SEPTEMBER

- Small flocks of Siskins flying around the Hopetoun area and a flock perched
briefly in an apple tree in a suburban garden in the Blackhall area. (MR)
- 3/9/97 Peacock Butterfly in garden, Fairmilehead. (MJ)
- 9/9/97 A Peacock Butterfly with a Red Admiral and Small White on Buddleia in
the shrubbery around Sainsbury's, Blackhall, Edinburgh. During August and
September '97, many Red Dragonflies (Sympetrum striolatum) seen around
Hopetoun House pond. (MR)
- 13/9/97 First geese of winter flying over Hopetoun House NT 090790. (MR)
- 16/9/97 Dundas Castle, West Lothian. Many fine trees noted in the grounds including a male
Monkey Puzzle (Araucaria araucana) ; Weymouth Pine (Pinus strobus);
Hungarian Oak (Quercus frainetto) ; Deodar (Cedrus deodara) ;
Red Oak (Quercus rubra) ; hybrid Chestnut, possibly Aesculus carnea and Midland
Hawthorn (Crataegus laevigata), each berry containing two seeds. (MR)
- 17/9/97 Red Damselfly, sunning itself on a gate-post. Goose Green, Gullane. (MW)
- 20/9/97 Hermitage, Dunkeld. 3 Red Squirrels and an albino Pheasant. (GM)
- 20/9/97 Fungi: Tricholoma leucocephalum and Hygrocybe spadicea found in the grounds of
Dundas Castle. (E.N.H.S. Outing)
- 23/9/97 Peacock Butterfly (Inachis io) at Bawsinch. (CR)

OCTOBER

- 4/10/97 A fall of Mistle Thrushes in Hopetoun House parkland.
The ripe berries of Broad-leaved Spindle (Euonymus latifolia) seen on
hedge, shore road leading to Hopetoun Main Gate, W Lothian. (MC, ES, JM, MR)
- 13/10/97 Three male Bullfinches feeding on Rowan berries in garden at NT 216746. (MR)
- 14/10/97 Circa 10 Long-tailed Tits, foraging in trees in gardens, Blackhall, on Rowan. (MR)
- Common Snipe at Bawsinch. (CR)
- 31/10/97 Flock of Fieldfares, c. 30, feeding on Rowan berries in gardens NT 216746.
The birds returned daily in varying numbers until the trees were stripped
of fruit about ten days later. (MR)

NOVEMBER

- Fungi: An exceptionally good Waxcap flora (Hygrocybe sp.) on the lawns at
Hopetoun House. Other interesting species include Earth Tongue (Geoglossum sp.),
Fairy Clubs (Clavulinopsis sp.) and Dermoloma. (MR)
- 12/11/97 About 10 Long-tailed Tits flew onto bushes in the garden in Penicuik. (DC)
- 22/11/97 In a couple of hours, a flock of about 40 Fieldfares stripped all the white
berries from an ornamental Rowan less than 20 feet from a kitchen
door in the Blackford Hill area. (MC)
- 22/11/97 1 female Goldeneye in Inverleith Pond. (CR)
- 29/11/97 2 Siskin at Bawsinch. (CR)

DECEMBER

- 19/12/97 Buzzard sitting on dead crown of Holly tree at "The Bank" on way in to
Hopetoun House. (MR)
- 21/12/97 A Collared Dove singing, also seen at Comely Bank Place. (CR)
- 26/12/97 1 female Desert Wheatear (Oenanthe deserti), at Musselburgh Lagoon (CR)
- 29/12/97 1 male Goosander - Inverleith Pond. (CR)

EXCURSIONS 1997

Saturday	5 April	Colinton Dell	G	Mrs M Robertson
Saturday	26 April	The Hirsel, Coldstream	G	Mrs M Robertson
Saturday	3 May	Hailes Castle & Longniddry	O	Mrs E Hurley
Saturday	10 May	Morton Lochs & Tentsmuir	O	Mr A Wilson (Ranger)
Saturday	17 May	Mertoun Estate, St. Boswells	G	Mr D Methven
Wednesday	21 May	Roslin Glen	G	Mrs B Smith
Saturday	24 May	Gifford Circuit	G	Mr G McDougall
Wednesday	28 May	Hermitage of Braid	ML	Dr R Kemp
Saturday	31 May	Gartmorn Dam C P, Alloa	O,G	Mr M Callan (Ranger)
Wednesday	4 June	Carrick Knowe Primary School	G	Mrs S Adamson
Saturday	7 June	St. Abbs Head	O	Mr K Rideout (Ranger)
Wednesday	11 June	Oakbank Bing, Livingston	B	Miss J Muscott
Saturday	14 June	Glen Moss	B	Miss J Muscott
Wednesday	18 June	Colinton Dell	Gr	Mr Graham Swift
Saturday	21 June	Minch Moor, Traquair	G	Mr & Mrs Perry
Wednesday	25 June	Newhall, Carlops	B,G	Mrs M Clakson
Saturday	28 June	Faskally, Pitlochry	Fe	Miss H McHaffie
Wednesday	2 July	N Queensferry to Jamestown	B	Mr S Bonar
Saturday	12 July	Gore Glen & Arniston Estate	G	Mrs M Robertson
Wednesday	16 July	Craigie Wood	G	Mrs Eunice Smith
Saturday	19 July	Queen Elizabeth F P, Aberfoyle	G	Mr I McCallum
Wednesday	23 July	Water of Leith, Currie	G	Mr G Priestley
Saturday	26 July	Aberlady Bay	B	Mr W Clunie
Wednesday	30 July	Warriston Cemetery	T	Mrs E Farquharson
Saturday	2 August	Lammermuir Edge Walk	G	Mrs M Watson
Wednesday	6 August	Red Moss Reserve Spiders		Mr J Stewart
Saturday	9 August	Esperston Limestone Quarry	Ge	Mr W Baird
Wednesday	13 August	Saughton Winter Gardens	G	Mr R Baillie
Saturday	16 August	Newhall Farm, Lilliesleaf	B	Mr D Robeson (FWAG)
Saturday	23 August	Ellemford Br'ge to Abbey St.B	G	Mr G McDougall
Saturday	30 August	Musselburgh	O	Mr R Baillie
Tuesday	2 September	M V Gardyloo - all-day sail		Mr J Stewart
Saturday	6 September	Dalkeith Country Park	Ent	Mr & Mrs D Adamson
Saturday	13 September	Charterhall Estate, Greenlaw	G	Mr D Gill
Saturday	20 September	Dundas Castle, S. Queensferry	F	Mrs E Farquharson
Saturday	27 September	Glentress Forest, Peebles	F	Mr M Richardson
Saturday	4 October	Millers Wood, Lanarkshire	F	Mr S Alcorn
31 Oct - 2 Nov		Kindrogan Weekend		Miss Heather McHaffie
Saturday	8 November	Musselburgh Lagoons	O	Mr C Pountain
Saturday	13 December	Fife Coast Walk	O	Mr S Bonar (Ranger)

EXCURSION CODES

B Botany
Ent Entomology
F Fungi
G General
Ge Geology



Gr Grasses
ML Mosses & Liverworts
O Ornothology
S Sea Shore
T Trees

EXCURSIONS

1997

DALMENY ESTATE

Date Saturday, 18th January
Leader Michael Osborne

Some 21 members gathered at South Queensferry to accompany Mike Osborne of the Royal Scottish Forestry Society on an afternoon tour of the Dalmeny Estate. As we walked along the foreshore, Mike proceeded to describe how to identify trees at this time of the year, from the characteristics of the twigs, e.g. the shape and arrangement of buds and twig colour, and from the general shape of the tree and type of bark. The park was established in the 18th Century and the landscaping of pasture, copses and tree-lined shore has remained relatively unchanged since that time. Of the original broad-leaved trees, the Oak and Beech have been largely supplanted by Sycamore. Examples of Horse Chestnut, Ash, Lime and a rare introduced Cherry were noted. The Scots Pine with its short needles, deeply fissured orange bark and roundish contours was compared with the Corsican Pine, having long needles, black bark and conical contour. Other conifers included Larch and the native Yew. An unusual, whitish deposit on the bark of several diseased beeches was indicative of a woolly aphid attack, which was followed by a fungal infection invading the damaged bark.

Several features of estate management were pointed out, from the control of the wild Rhododendron population to the commercial use of Spruce and Scots Pine. We also saw an example of the 1960s type of strip forest planting of Larch and Pine, giving a striped-pyjama effect. A pile of freshly-cut logs absorbed our attention, while the significance of the ring patterns and knots was explained in terms of the past growth and branching of the tree. There were finds to delight the fungus-gatherers, and the borders of the drive to the estate house yielded an interesting collection of laurels. A brisk walk over the hill, through the meadow to the road down to Queensferry completed an entertaining and informative outing on an otherwise dull but mild January day.

Reference:

"Trees of Britain and Europe"
by Alan Mitchell. Pub.: Collins
(See also: "A note on Laurels", Page 20)

MARGARET PERRY

SEAWEEDS at TYNINGHAME

Date Saturday, 22nd February
Leader David Jones

A party of 16 members met up at the Lime Tree Car Park, Tynninghame to make a foray onto the beach of the Tyne Estuary. The weather was wild, occasional scuds of rain and a very strong S.W. wind blowing the clouds along at a hectic rate. Because it was a poor tide, 2 members made a hurried dash to collect material from the lower shore if possible, leaving the remainder of the party to arrive in a more leisurely fashion. However, the tide was already flooding the mid-shore beds of Bladder Wrack (*Fucus vesiculosus*) and it was only in the shallow pools that we could find occasional small tufts of *Gigartina stellata*, *Corallina officinalis*, *Cladophora* sp. and *Laurencia obtusa*. One small specimen of Sea Lettuce (*Ulva lactuca*) was also discovered and displayed. A common inhabitant of the upper pools was *Dumontia incrassata* - a red, branched, coarsely filamentous alga.

The green *Enteromorpha intestinalis* was common, especially on the upper shore's otherwise bare rocks, in company with the spread strands of the Laver Weed (*Porphyra umbilicalis*) but there was also a good cover of the Spiral and Channelled Wrack (*Fucus spiralis*) and (*Pelvetia canaliculata*) in places.

On the upper tide-line we found an alternative to examining the lower shore - the rolled-up tangle of wrack left from previous storms. The less particular among us used their hands to dig amongst these heaps, while the more fastidious did yeoman work with strong sticks. Uncovered from this mass were the three Laminaria species: *L. digitata*, *L. saccharina* and *L. hyperborea*, the latter with stipes bearing the epiphytic *Rhodomenia palmata*. A few specimens of the Serrated Wrack (*Fucus serratus*) were uncovered so that the main shore-covering fucoids and Tangles were all seen.

The tide crept quietly in, flooding all the rocky beach, while the party lunched in the warm sunshine, well-sheltered from the wind, the effects of which were clearly visible out on the waters, with spray streaming from the rollers out in the Tyne Estuary.

The excursion continued with a stroll round St. Baldred's Cradle, where bird-watching took the place of seaweed-hunting, the party returning to the cars as rain-threatening clouds rolled up from the south-west.

DAVID JONES

SOONHOPE BURN

Date Saturday, 22nd March,
Leader Mrs. Jean Murray
Weather Damp and slightly windy

On a rather unpromising morning, fourteen members turned out to take the uphill track round the edge of the old Venlaw quarry and through mature woodland above the Hydro. We looked for and found Red-Berried Elder, which is quite common in the Borders. Soon we were in open country and just before Glenbield a new notice directed us down a rather steep, grassy slope to cross the Soonhope Burn. The previous week there had been Kestrels and a Dipper, but we had to make do with human contact in the form of two owners of adjoining areas of land. The first, from Glenbield, had already dug out a sizeable pond and planted native trees on the built-up bank, while the other was also planning to plant broadleaved trees at the edge of his Spruce plantation, which he hopes to crop for Christmas trees in 5-7 years time. He told us he had already lost another planting to Sika deer.

We carried on into the edge of the Glentress Forest, recrossed the burn and found Coltsfoot in flower, frog spawn in a ditch, and various spiders where we stopped for lunch. On the way back, Coal Tits were seen and Blue Tits also. Our return track led us down the opposite side of Soonhope. Lower down there is quite a colony of old holiday huts, dating back to the Thirties or before, most still in use and some being modernised. Their water supply appears to be simply piped off the open hillside.

The walk could have been extended via the River Tweed, but when Eileen Perry suggested we return to her house for a cup of tea, most of the party happily accepted. Thanks are due to Eric and Eileen for rounding off the day so delightfully. I fear we left them with a rather muddy kitchen floor.

JEAN MURRAY.

WATER of LEITH

REDHALL to COLINTON DELL

Date Saturday, 5th April
Leader Mrs. Mary Robertson
Start Dovecot Grove
off Lanark Road

Part of the Science Festival

A cold wind was blowing as we assembled, so the 19 participants lost no time seeking the shelter of the trees in the river valley. We had covered this area in the Science Festival Week of 1994. A few large trees had been blown down and some had just

collapsed with age; otherwise the area is much the same and we saw some species recorded on Page17 of the 1994 Journal, with reference to "the small haugh". The Moschatel still survives and we found Pink Purslane (Claytonia sibirica) and Lungwort (Pulmonaria officinalis), both in flower. In sheltered spots Honesty and Pink Campion flowered.

Ivy likes cool shady conditions and there is lots of it. We noted the various ways in which it scrambles about horizontally and vertically, even hanging in curtains over steep banks of the Water of Leith. We examined the leathery, palmately lobed leaves on vegetative stems and the simple more pliable leaves found on the flowering stems which make it look like two different species.

Leaves on vegetative stems

Leaves on flowering stems

We opened ripe berries, each containing fine seeds, good eating for wildlife creatures at this hungry time of year. Later on we examined sawn sections of a Hawthorn trunk completely surrounded by Ivy, and it was easy to see that the adventitious roots growing on its stems had not penetrated the host plant but had merely been used as a climbing aid. Ivy is not parasitic as some of our guests believed.

We found some Guelder Rose (Viburnum opulus), Bird Cherry (Prunus padus) in bud and Gean (Prunus avium) in flower. Suckers from this tree covered a large area, making it impossible to pick out the parent plant. The evergreen Hard Shield Fern (Polystichum aculeatum) and Hart's Tongue Fern (Phyllitis scolopendrium) were also seen.

Noisy Jackdaws were prospecting nesting sites in old hollow trees and investigating recently damaged ones while nine equally noisy Magpies held a parliament. Wrens called loudly and we had heard Blue Tit, Coal Tit, Great Tit and Gold Crest. Finally we heard a Chiffchaff. We watched a Treecreeper working its way up a very tall tree but we were disappointed not to see any water birds. We had a short but interesting walk which our guests seemed to enjoy, and warm sunshine made a pleasant conclusion.

MARY ROBERTSON

THE HIRSEL, COLDSTREAM

Date Saturday, 26th April
Leader Mrs. Mary Robertson

It was a very cold day without a blink of sunshine when we visited The Hirsell though fortunately it was dry. Twenty one members took part. The driveway to The Hirsell, lined with daffodils, is particularly attractive in Spring and the herd of Highland cattle add to its charm. The invasion of Few-flowered Leek (Allium paradoxum) around the entrance is a recent unwelcome addition

and we found it spreading extensively in other areas. We were delighted to see the first Swallows when we reached the car park.

We walked towards the house and admired many varieties of Cherry in full blossom, with Wood Forget-me-not (*Myosotis sylvatica*), Meadow Saxifrage (*Saxifraga granulata*) and more daffodil species as ground cover. Turning left towards the Leet Water Walk, we found Primroses (*Primula vulgaris*), Cowslips (*P. veris*) and their hybrid offspring, False Oxlips (*P.x polyanthus*) as well as Good Friday Grass (*Luzula campestris*), better known as Field Woodrush and a nice clump of Water Avens (*Geum rivale*). Further on, Ground Ivy (*Glechoma hederacea*) made a lovely splash of colour and sharp eyes found Lady's Mantle (*Alchemilla vulgaris*), Three-veined Sandwort (*Moehringia trinervia*) and Lady's Smock (*Cardamine pratensis*). Whitlow Grass (*Erophila verna*) and Thale Cress (*Arabidopsis thaliana*) were also spotted. I think that the latter is becoming more widespread, but it may have been under-recorded or mistaken for Bittercress species.

There are some magnificent old broad-leaved trees. The Hirsell is famous for three trees in particular: a Sycamore said to date from 1513, perhaps the oldest of its kind in Scotland; a Spanish Chestnut of a similar age; and the Tulip Tree in the walled garden dating from 1745. Woodland Management Services of Duns maintain the policies and use the old kitchen garden as a tree nursery. Among the conifers is a venerable Silver Fir (*Abies alba*) and a Giant Sequoia (*Sequoiadendron giganteum*) as well as many fine Scots Pine (*Pinus sylvestris*).

In the afternoon we visited Dundock Wood which contains a variety of ornamental trees and shrubs. Some of us found a large Katsura with many twisted trunks, a male specimen with faded staminate flowers. Its new growth had been damaged by frost. The female tree produces pods. Leaves are opposite, resembling those of the Judas Tree which are alternate; its botanical name is *Cercidiphyllum japonicum* - Japanese round-leaved tree. Cedar of Lebanon (*Cedrus libani*) and Deodar (*C. deodara*) were seen as well as an avenue of young Southern Beech (*Nothofagus* species). Lovely Rhododendrons were flowering and scented Azaleas were in bud.

We stopped at the hide by Hirsell Lake to watch Tufted Duck, Goldeneye and about thirty Goosanders. We heard migrant Chiffchaff, Blackcap, Willow Warbler and one Garden Warbler as well as resident Goldfinch, Goldcrest, the Titmouse family and others. Then I heard a new call at The Hirsell, which was Nuthatch and some of us were fortunate to see a pair.

Leaving The Hirsell shortly after three o'clock we moved west to Springhill hoping to see Yellow Wagtail beside the Tweed. It was not to be, but we were rewarded by seeing a pair of Ringed Plover, Oyster catchers, Lapwings and the first Sandpipers. Pied Wagtails also obliged. It was a joy to see a flock of Swallows hawking insects over the river and to hear their calls again. On the way back to the bus we heard

a Lark singing bravely in the cold wind.

MARY ROBERTSON

MORTON LOCHS and TENTSMUIR

Date
Leader

Saturday, 10th May
Mr. Tony Wilson

Hidden away amidst woodland south of Tayport, along a dirt track marked "private road", 10 members eventually located our leader for Morton Lochs, Countryside Ranger for Fife Council, Tony Wilson. Tony explained that it was the policy of owners S.N.H. not to publicise widely this secluded Nature Reserve. The Reserve covers 24ha of open water, fen, alder-willow-birch scrub, dune heath and mixed woodland. The site is an island relic of the Tentsmuir dune system, originally formed as dunes and slacks on the coast, now almost three miles away.

The lochs were created at the turn of the century for fishing, by the owner of Morton farm. The wetland site, rare in Fife, soon attracted a variety of wildfowl. We had missed most of the overwintering birds. From hides (not open to the public) at the south and north lochs we saw Little Grebe and Teal, of the less common freshwater fowl. Sedge Warblers were heard, while a Buzzard flew overhead. An unusual sight at the North loch was two Highland cattle swimming out to a scrubby island and browsing Birch trees. The cattle roam the area, being introduced in an attempt to control the spread of Birch and Willow.

Instead of the planned walk to the Point, made inaccessible by a locked gate, a short journey to Tayport Bay, in the afternoon, allowed an enjoyable walk along the seashore, returning through the edge of Tentsmuir Forest. The best bird sighting was a flock of Ringed Plover, yet to depart northward. This area would be better visited earlier or later in the year. A sheltered length of an old railway line, south of the car park at Morton Lochs, is a haven for Damselflies and Dragonflies and is used on a national basis by S.N.H. to record Butterflies. Fungi abound in the Autumn.

GRAHAM SWIFT

TENTSMUIR: the Plants

It was not possible (and was too early) to make an extensive survey of the lochside vegetation, but one or two interesting plants were noted; in particular the Greater Pond Sedge (*Carex riparia*). This conspicuous large-flowered Sedge forms large stands and flowers early, but is rare north of the Border. (There is a large stand to the east end of Duddingston Loch, but it is suffering from the continued encroachment of the reedbed.) Other water plants included Water Plantain (*Alisma plantago-aquatica*), Water Horsetail (*Equisetum fluviatile*), Reed Mace (*Typha latifolia*) and Hemlock Water Dropwort (*Oenanthe crocata*).

The coastal walk in the afternoon was perhaps more interesting to the botanist. There were three different communities: saltmarsh, short turf, and maritime heath. The first community included Sea Clubrush (Bolboschoenus maritimus), Sea Aster (Aster tripolium), Sea Plantain (Plantago maritima), Sea Arrowgrass (Triglochin maritima) and Saltmarsh Rush (Juncus gerardii). The second included many small spring-flowering plants such as Early Forget-me-not (Myosotis ramosissima), Cornsalad (Valerianella locusta), the tiny Spring Vetch (Vicia lathyroides) and Shepherd's Cress (Teesdalia nudicaulis). The latter is a tiny weed, rather like a miniature Shepherd's Purse, with rather similar seeds. It's a rare plant of sandy and gravelly soils.

The third community, the maritime heath community was most impressive. Here were Heathers (Calluna vulgaris, Erica cinerea and E. tetralix), Crowberry (Empetrum nigrum), Creeping Willow (Salix repens) and a patch of Common Wintergreen (Pyrola minor) mixed in with sheets of ground-covering Lichens (Cladonia arbuscula agg.). Here too was an interesting fungus, the Earth Fan (Thelephora terrestris), which thrives on sandy heaths.

As we walked we heard the call of a Cuckoo, a sound I seem to hear less often these days.

JACKIE MUSCOTT



Teesdalia nudicaulis
Shepherd's Cress

MERTOUN ESTATE

Date
Leader

Saturday, 17th May
Mr. Douglas Methven

8 intrepid members turned up at Mertoun Bridge on what had been a truly appalling morning in both Edinburgh and the Borders. Several had considered turning back, but when our leader joined us it was dry.

We set off to walk round the great loop of the R. Tweed and were rewarded early on with a small flock of Goosanders, and in the woods there was plenty of birdsong to identify. A completely un-shy Goldcrest gave us a grandstand view, flitting around on leafless branches right beside us. The sloping banks down to the river showed drifts of spring flowers in pink, blue and white, mainly Red Campion (Silene dioica), Forget-me-not (Myosotis spp), and Ramsons (Allium ursinum). In the damper areas there was plenty of Wood Stitchwort (Stellaria nemorum) and Large Bittercress (Cardamine amara). Also occasional patches of Meadow Saxifrage (Saxifraga granulata) were to be seen. At the Crystal Well was a flourishing colony of Hart's Tongue Fern (Phyllitis scolopendrum).

After lunch we crossed the swaying suspension bridge into the estate grounds and turned off to look at Mertoun Church where the bell rope hung temptingly within reach on an outside wall. Further on came evidence that the practice of mole-catching and displaying the bodies on a fence had not died out. Tucked at neat intervals into the barbed wire along a straight stretch of road were well over 1000.

Rain threatened again as we neared the cars but all agreed that it had been a delightful outing, with Douglas Methven an excellent and knowledgeable leader.

JEAN MURRAY



Thelephora terrestris
Earth Fan

ROSLIN GLEN

Date Wednesday, 21st May
Leader Mrs. B. Smith

Betty's article is on page 13

YESTER ESTATE

Date Saturday, 24th May
Leader George McDougall

When we met at Gifford, having got permission to walk round the Yester Estate and gardens and visit the legendary Goblin Ha', the weather was in complete contrast to the previous week .

As soon as we were through the ornamental gates we saw a variety of mature trees; indeed this was the case throughout the estate so we were pleased that Mary Robertson was there to help with identification. Fern-leaved Beech (Fagus asplenifolia) was particularly noticeable, its pale green serrated leaves contrasting prettily with the many conifers, with the Ash (Fraxinus excelsior) still reluctant to show any green at all.

We skirted the house and arrived in the garden, passing a white painted kiosk which is the old clock case from Edinburgh Caledonian Station. On a grassy area there is a tree of particular interest, namely the Maidenhair tree or Ginkgo (Ginkgo bilboa). This ancient tree is a living fossil, a Gymnosperm predating the conifers and going back to Jurassic times. It now has no remaining relatives. Research has led to the suggestion that the leaves may contain some substance that can improve memory and may even alleviate Alzheimer's disease. It is mostly planted much further south and this specimen was not looking too happy.

The track then took us into woodland. Just before lunch we passed a productive length of wall which yielded Woodruff (Galium odoratum), Wood Vetch (Vicia sylvatica) which is uncommon, Hart's Tongue Fern (Phyllitis scolopendrium), Hard Shield Fern (Polystichum aculeatum) and Wall Lettuce (Mycelis muralis). The botanists were thrilled. Now we turned off on to a narrower track leading to the Goblin Ha' and here we came across our only fungus - Boletus erythropus - which turns dark blue immediately the flesh is cut, a fittingly spooky introduction to the subterranean vaulted roofed hall of the goblins, which cannot now be entered. You peer through the iron railings to view and wonder.

Thanks are due to George McDougall for taking such trouble over the arrangements and for compiling the following information.
JEAN MURRAY

Notes on YESTER from George McDougall

Until the 1960s the estate was owned by the Marquis of Tweeddale, family name Hay.

Yester House dates from the early 18th century and was designed by James Smith and Alexander MacGill. Later William Adam and his sons were engaged to enliven the designs both inside and outside. The splendid gates were created by James Adam. Originally the house was flanked by two pavilions but the west pavilion was removed in 1830 to make way for a new entrance.

The house replaces an earlier tower which was demolished along with the nearby village of Bothans (i.e. bothies and workers' cottages). The inhabitants were rehoused a mile away in a new planned village - the Gifford we know today. All that remains of Bothans is the choir and transept of the collegiate church of St Cuthbert. The Adam brothers re-designed the ornate west front in 1753 and it became the Tweeddale burying place.

Over a mile to the SE on a promontory between the Hopes Water and a tributary, the original Yester Castle 'stands' or so it would seem. The interesting parts including the famous Goblin Ha' (Goblin Hall) are subterranean. The castle was built in 1267 by Sir Hugo de Gifford, an alleged wizard. He is said to have constructed it by magic.

THE GOBLIN HA'

"Of lofty roof and ample size,
Beneath the castie deep it lies.
To hew the living rock profound,
The floor to pave, the arch to round
There never toiled a mortal arm -
It all was wrought by word of charm.

From 'Marmion' by Sir Walter Scott

Sometime in the fourteenth century the heiress of Sir John Gifford of Yester married Sir William Hay and so began the long Tweeddale connection with the district. The Tweeddales still own a house in Gifford.

GARTMORN DAM COUNTRY PARK

Date Saturday, 31st May
Leader Martin Dean

A select few escaped from the coastal haar over Edinburgh to enjoy the summer climes of Clackmannan. We were shown around the park by Martin Dean, a local Ranger interested in birds and mammals. Gartmorn Dam, an artificial reservoir about 1 mile in length, was constructed in 1713 to provide power for engines to drain the coal mines. The remains of the disused mine workings are scattered around the park. In the morning we walked around the lake, now a Nature Reserve, to view the birds. Most prominent were the four pairs of Mute Swans with their families of cygnets, numbering

up to nine in one family and no more than 10 days old. At one point we spotted a swan's huge nest. Tufted Ducks and Mallards, leading their young, were also seen. The population of Great Crested Grebes was small this year due to the high water level covering their feeding grounds in the reeds. However we did catch sight of one pair and overhead, a Buzzard, a Sparrowhawk and numerous Rooks from the island rookery. Martin was very enthusiastic about the reported sighting (some time ago) of an Avocet. Swallows were very active in and around a disused barn, and a lone Skylark was perched in a nearby field.

Amongst the objects of the Ranger Service in the area are the creation of friendly habitats to encourage Otters; the formation of lagoons to attract wading birds; and nest boxes for Golden Eye. Barley straw has been laid down to combat algal pollution in the lake. The main hazard to the local bird population is predation of eggs and hatchlings by Mink. The lake is used as a Brown Trout fishery, and on this day there were a few patient fishermen plying their rods in the sunshine. Lunch was taken at a viewpoint in an area of Community Woodland (privately-owned but state-supported) overlooking the lake against the background of the Ochil Hills. The landscape here, to the south of the dam, features a number of drumlins (the smoothly sculptured hills of glacial deposits).

As we walked downhill we found large patches of Crosswort (Cruciata laevipes) by the fence. We continued alongside a wood, following the course of the Black Devon River towards a spectacular waterfall leading to a deep gorge in the rocks overhung by long trails of ivy. This ecological niche is managed by the Scottish Wildlife Trust. Amongst the plants in flower here were clumps of Herb Robert (Geranium robertianum), Red Campion (Silene dioica) and Greater Stitchwort (Stellaria holostea). Herb Bennet (Geum urbanum) which is also commonly known as Wood Avens, and Water Avens (Geum rivale) bordered the path to the waterfall and were separated by clumps of their hybrid form (Geum x intermedium). A patch of Mimulus was noted beside the water's edge.

We retraced our steps to the Dam and along the south shore, savouring the fragrance of the May blossom, and noting Field Speedwell (Veronica persica), Dog's Mercury (Mercurialis perennis), Tormentil (Potentilla erecta), Yellow Comfrey (Symphytum tuberosum), Yarrow (Achillea millefolium) and Silverweed (Potentilla anserina). It was fascinating to see the numerous gaudy blue Damselflies with their black markings, presumed to be Ischnura elegans hovering over the pathway and displaying courtship behaviour with the more sombre-hued females of the species. As time was pressing, we hurried back to the newly-built and well-staffed Visitor Centre, and agreed that this was a lovely area of the countryside to visit.

MARGARET PERRY

VISIT TO CARRICK KNOWE
PRIMARY SCHOOL

Date Wednesday, 4th June
Leader David Adamson

The school buildings sit in a large 'green desert' of close cropped grass, bordered by ornamental, and in most cases damaged trees. Over the next few years the school intends to make the grounds more interesting for the pupils while at the same time encouraging wildlife. The first step has been to fix low-level nestboxes to trees. On our visit only one showed definite signs of nest building and their low elevation on trees to help school children inspect them, or, in one case, the absence of a branch on which birds could perch, may be the reason for low occupancy.

The next project is hoped to be a Willow tunnel like that at Harestanes, where osiers are closely planted and interwoven. In the future a chequerboard herb garden, vegetable allotment, trim course, shrubberies and planting of shade-tolerant native plants below trees are all proposed. All would involve the schoolchildren. For perceived safety reasons, schools are reluctant to build ponds.

Those present came up with some good ideas and made some observations which have been passed on to the school. Almost every tree has lost bark at the base of the trunk due to careless grass cutting. Native shrubs could be planted near the perimeter fence and allowed to radiate into the ground, thereby creating sheltered areas in which children could play. The ground under the trees was hard packed and in some cases, bare even of grass cover. This could be improved with bark chipping paths separating semi-natural flower beds. Even leaving an area uncut would improve the plant and insect diversity.

Perhaps a return visit will be made when the developments have taken place and the paucity of wildlife in 1997 can then be compared with a much richer habitat.

Our thanks to the school for allowing us to visit.

DAVID ADAMSON

ST ABB'S HEAD

Date Saturday, 7 June
Leader Kevin Rideout, Chief Ranger

Sixteen members of the Society were welcomed to the Reserve by Kevin Rideout, on a fine summery morning. He explained that the St Abb's Head National Nature Reserve dated back to 1980 when the Head was purchased with significant financial help from the Countryside Commission for Scotland. It is owned by the National Trust for Scotland and managed in co-operation with the Scottish Wildlife Trust. One hundred

and ninety two acres in extent, the Reserve is of national importance for its seabird colonies, geology and plant communities.

After a quick peek into the Visitors Centre we were off following a trail which eventually took most of the company round the whole extent of the Reserve, starting at the southern end and making a circuit of the Head by way of the lighthouse and the Mire Loch. Emerging from a short wood-fringed approach onto the open cliff path we had our first views of 'auk city', with thousands of Guillemots and Razorbills floating on the water surface while others scurried about with typically rapidly beating wings. Further on, where the cliffs were higher, more thousands were perched on ledges, each pair looking after their solitary egg and soon-to-be-hatched-out nestling, which would stay on the ledge until half grown after three weeks. Then would come its moment of truth when the youngster would leap off the rock 'on a wing and a prayer' hopefully to land on water rather than boulder. The Ranger estimated the auk population to be about 80,000, with Guillemots outnumbering Razorbills. Puffins were not so easily found but some of the company managed to see about a half dozen.

Large numbers of Kittiwakes, more vocal than Auks, shared the cliff faces with them. But Auks and other sea birds didn't seem to share the freshwater bathing sessions that Kittiwakes busied themselves with on the loch. If anyone has the reason why, please inform Ena Gillespie. (She asked the question!) Nesting around the Head in smaller numbers were Fulmars, Shags, Herring Gulls and a few Rock Pipits.

With suitable weather conditions in spring and early summer St. Abb's Head can be a 'hot spot' for unusual migrant birds, and during the week of our visit a Great Reed Warbler had been sighted. This explained the presence of a few small parties of twitchers scanning the reed beds by the loch, but the body language appeared to indicate that they had 'dipped'.

At a point on the south side of the Kirk Hill the Ranger brought our attention to a fenced off area which, he explained, was intended as protection for the rock-rose, food plant of the Northern Brown Argus Butterfly (*Aricia artaxerxes*). However the experiment seemed to be a bit of a failure since it was obvious to most that the flower was doing much better in areas outwith the protected zone. And it was in one of those other areas that later in the day at least two of the company saw specimens of the butterfly on the wing. Other species seen flying in the bright sunshine were Small Copper (*Lycaena phlaeas*), Red Admiral (*Vanessa atalanta*), Small Tortoiseshell (*Aglais urticae*) and unspecified Whites.

As is usual on these outings much activity was going on, generally behind our backs, by the botanists. Since they usually outlast the others in the field, I can mention only a few of the species of interest that were seen during the walk. They were Sea Spleenwort (*Asplenium marinum*), Purple Milk-vetch (*Astragalus danicus*), Spring Sandwort (*Minuartia verna*) and Scarlet Pimpernel (*Anagallis arvensis*). Thrift (*Armeria*

maritima) was abundant along the cliff tops, and at this time of year it was in full bloom.

Back at the Visitor Centre there was time to look round a fine set of display panels and to find sustenance in the coffee shop.

JIM STEWART

OAKBANK BING

<u>Date</u>	Wednesday, 11th June
<u>Leader</u>	Jackie Muscott

Three people turned out on a very wet evening (the rain was slightly less heavy in West Lothian than in Edinburgh) to look at plants on the shale bing at Oakbank. David Adamson led the walk. He told us of two species not seen very often in the Lothians but abundant here: Salad Burnet (*Sanguisorba minor*) and Tree Lupin (*Lupinus arboreus*). The lupins along with Ox-eye Daisy (*Leucanthemum vulgare*), Broom and Gorse made a wonderful display of colour on the slopes of the bing.

Many of the lupins are yellow-flowered Tree Lupins (*Lupinus arboreus*) with some larger leaved purple-flowered *Lupinus polyphyllus*, both probably garden escapees. Hybridisation has resulted in flowers of all shades of yellow through to purple. A plant with leaves looking intermediate in size between the two parents we thought to be *Lupinus x regalis* (*L. arboreus* x *L. polyphyllus*). On consulting Stace "New Flora of the British Isles" later, he says of *L. arboreus* that the leaflets are mostly less than 6cms., the corolla usually yellow, often blue-tinged, sometimes blue or whitish and that it's introduced (a garden escape); of *L. x regalis* (*L. arboreus* x *L. polyphyllus*) = Russel lupin that it's much closer to *L. polyphyllus*, the leaflets mostly more than 6 cms. and the corolla various colours. *L. x regalis* is also introduced and of garden origin but spontaneous hybrids occur with the parents in Moray, Wigtownshire and Midlothian, and perhaps also backcrosses from naturalised *L. x regalis* to *L. arboreus*. He states that garden escapes are usually recorded as *L. polyphyllus* which is rarely grown now and that probably all records outside Scotland are *L. x regalis*. So, it's worth taking another look at these lupins.

The Fabaceae (old Leguminosae) were particularly well represented; as well as Gorse (*Ulex europaeus*) and Broom (*Cytisus scoparius*) we noted White Clover (*Trifolium repens*), Red Clover (*Trifolium pratense*), Hop Trefoil (*Trifolium campestre*), Lesser Trefoil (*Trifolium dubium*), Common Bird's Foot Trefoil (*Lotus corniculatus*), Hairy Vetch (*Vicia hirsuta*), Common Vetch (*Vicia sativa*), Bush Vetch (*Vicia sepium*), Tufted Vetch (*Vicia cracca*) and Meadow Vetchling (*Lathyrus pratense*).

It was interesting to see a few Sea Buckthorn bushes (*Hippophae rhamnoides*), more usually associated with

the coast. We only found two orchid spikes, both Common Spotted Orchid (Dactylorhiza fuchsii). Of the grasses Marsh Foxtail (Alopecurus geniculatus) looked at home in a very full ditch and David pointed out the differences between Red Fescue (Festuca rubra), Meadow Fescue (Festuca pratensis) and Tall Fescue (Festuca arundinaceae).

Altogether an interesting site. So ... don't be put off by adverse weather.

LIZ. PILLING

FOOTNOTE: This is a "restored" bog and I believe the lupins were planted deliberately, presumably to fix nitrogen. The Salad Burnet is ssp. muricata, a large cultivated form known as "Fodder Burnet", perhaps introduced as a seed contaminant.

JACKIE MUSCOTT

GLEN MOSS

Date Saturday, 14th June
Leader Jackie Muscott

It was a relatively small party which caught the bus to Glen Moss near Kilmacolm, a small town west of Glasgow (the leader overslept so it was nearly even smaller, but that's another story). However it turned out to be a most interesting day. The Moss was originally a shallow lake carved out by glaciers, which has been gradually silting up, so it has been a marsh and wetland for centuries. The underlying rock is impermeable basalt, and the springs which feed into the area have only one outlet to the west. A sluice was installed in Victorian times when the area was used for curling, but curling ceased in 1914. Recently management has been taken over by the Scottish Wildlife Trust.

It's a splendid place for water plants, and for dragonflies, and we managed to see a good selection of each. Among the more interesting plants were Whorled Caraway (Carum carvi), Tufted Loosestrife (Lysimachia thyrsiflora) and the dainty little Bog Sedge (Carex limosa). Whorled Caraway, which was not yet in flower, is an umbel with very fine leaves held in whorls. It's found in wet places to the west of the British Isles. Bog Sedge is found in wet valley bogs of which Glen Moss is a good example. It has a scattered distribution, but where it grows it can be abundant (eg on Rannoch Moor). Tufted Loosestrife is a nationally scarce plant, which was once recorded at Duddingston Loch. It grows in the Union Canal, but this was the first year I have seen it in flower there; and it was flowering at Glen Moss too.

Interesting plants on drier ground included Spignel or Meum (Meum athamanticum) and Coralroot Orchid (Corallorhiza trifida). Spignel is another fine-leaved umbel, but the leaves are multiple-pinnate rather than whorled, and it is strongly aromatic. It's quite rare, probably most frequently found in Perthshire.

The Coralroot is also rare, but there are several sites

at Glen Moss, and after some searching we eventually found a few spikes. Spikes are yellowish and leafless, apart from the lip of the flower which is white. It's a saprophyte, living on decaying vegetation, so it can grow in dark places, and has no need of chlorophyll which gives most plants their green colouration. It gets its name from the roots which are contorted like a small piece of coral - but note that digging it up to check it out is a criminal offence!

Nine species of dragonfly have been recorded at Glen Moss, and we were lucky enough to see four of them - three damselflies, Common Blue, Azure Blue and Bluetail, and more excitingly, the Four-spotted Chaser. I always think of this broad-bodied dragonfly as the heavy bomber of the dragonfly world. It's not found in the Lothians, but we were lucky enough to see around a dozen at Glen Moss.



A Click Beetle joined us for lunch, and was duly turned over, and made to "click" as it flipped itself back again and took off. Gardeners are more familiar with its larva - the Wireworm. There were several other insects, including a beautiful Green Lacewing, and Small Pearl-bordered Fritillary butterfly. Birds included Buzzard and Kestrel, and some Dabchicks (Little Grebe) on the water.

Altogether a most enjoyable day, and one full of interest.

JACKIE MUSCOTT

COLINTON DELL GRASS EVENING

Date Wednesday, 18th June
Leader Graham Swift

This grass evening began by admiring a flowering stand of Crown Vetch (Securigera varia) on Millbank Bridge over the Water of Leith Walkway. It was recorded by Mary Robertson last September. We walked along the Walkway to Colinton Dell, returning on the south bank of the river noting a total of 20 grasses. Two grasses uncommon to the area were spotted by observant members; one was the occasional non-flowering plant of Giant Fescue (Festuca gigantea), with large leaves similar to the numerous Hairy Brome (Bromopsis ramosa), but hairless and with larger auricles; and a single flowering plant of Wood Melick (Melica uniflora) growing above the lade for the old Redhall mill. Beyond the Redhall Mill Cottages, at a wooden footbridge, is an extensive stand of the Pick-a-back Plant (Tolmiea menziesii).

The five members who attended on this cool wet evening at the start were rewarded by a glimpse of the sun later and hopefully a better knowledge of our common grasses.

GRAHAM SWIFT

MINCH MOOR

Date Saturday, 21st June
Leaders Mr. and Mrs. Eric Perry

Eric and I set out for Traquair, the starting point for the outing to Minchmoor. We did not expect to meet any members because the weather and the forecast were most discouraging. However, we had underestimated the character and enthusiasm of the Edinburgh Natural History Society because a group of eleven assembled.

The path to the summit of Minchmoor 1859ft., is mostly along the Southern Upland Way and is a steady but not steep climb. We passed an unusual Ash tree which had a spiral trunk. This was caused by two trunks spiralling round each other and fusing together and then separating higher up. A Buzzard flew over accompanied by a Carrion Crow. Foxgloves were beginning to flower and Male Fern was plentiful. The weather improved as we climbed and we had good views at various points as the clouds lifted off the tops although our thoughts were with the ceremony taking place in Peebles as the Beltane Queen was due to be crowned.

We paused at the Cheese Well where David Adamson sprinkled cheese as an offering to the fairies who are said to inhabit the well. When we had reconnoitred the route earlier we had forgotten the cheese and so that was why no doubt we had bad luck with the weather on

the day. The top of Minchmoor is quite flat and Stagshorn Clubmoss, Bilberry and Crowberry were growing amongst the heather. Meadow Pipits were all around. For the descent the party split, with some returning by the Southern Upland Way and the more adventurous taking the Clattering Path which had become very muddy in places. Some of the latter group were rewarded by sightings of frogs and lizards and the other group by a swimming vole. The two groups came together again on the way down. At the lower level were Swifts, Swallows, House Sparrows, Robins and Blackbirds. More Buzzards were sighted and a Mistle Thrush.

Common plants included Tormentil, Blinks, Water Forget-me-not and Cotton-grass. Male Fern and Hard Fern. Fungi included Suillus grevillei, Stropharia semiglobata, Collybia dryophila, C. maculata, Panaeolus semiovatus, a Russula/Lactarius (smelling of iodine), Hypholoma sp.

EILEEN PERRY

NEWHALL, CARLOPS

Date Wednesday, 25th June
Leader Mrs. Mary Clarkson

In spite of rain, a good turnout joined Mary Clarkson for a circular walk through the grounds of Newhall House and Habbie's Howe. Soon enthusiasts were wading knee deep in wet grass looking for fungi and flowers. An interesting find was Common Twayblade (Listera ovata). Habbie's Howe, a semi-wooded ravine on the River Esk is rich botanically. It has been declared an SSSI and is the home to moisture-loving plants such as mosses, liverworts and ferns including Oak Fern, uncommon in these parts. Paths and stairs lead down to the river at Peggy's Pool. Here Mary found Alternate-leaved Golden Saxifrage (Chrysosplenium alternifolium) - the rare one. Downstream, Mountain Currant (Ribes alpinum), Melancholy Thistle (Cirsium heterophyllum) and Pick-a-back Plant (Tolmiea menziesii) grow with all the woodland flora. Rain drove us up towards the house. On the way a cut-leaved Beech raised considerable interest and we admired a fine Wellingtonia.

The garden was closed but a peep through the gate suggested a visit would be worthwhile. It is open one day a week in summer. Wall-rue (Asplenium rutamuraria), Brittle Bladder Fern (Cystopteris fragilis) and Common Spleenwort (Asplenium trichomenes) decorate the wall. In damp ground nearby there is a large stand of Giant Valerian (Valeriana pyrenaica).

Habbie's Howe, Peggy's Pool and other names such as Lanelybield and Patieshill recall the poet Allan Ramsay (1686-1758). Ramsay was a frequent visitor to Newhall and the area is believed to have inspired his pastoral comedy "The Gentle Shepherd".

We must return on a good day.

GEORGE McDUGALL

FERRYHILLS,
NORTH QUEENSFERRY

Date Wednesday, 2nd July
Leader Mr. S. Bonar

This evening trip across the Forth Bridge got off to a bad start, with the party running into heavy rain on the Bridge and meeting up at the wrong car park. However a search party discovered the right car park, and more importantly our leader, the local Ranger. And the rain held off for most of the visit.

The Ferry Hills consist of base-rich volcanic rock (like parts of Arthur's Seat), and their botanical interest has been known for a long time. There is a large quarry to the north, but the area near North Queensferry was declared an SSSI in the 1960s. However this has not prevented recent building on part of the site, as planning permission had also been given in the early 1960s. The rest of the SSSI has become very overgrown with Gorse and other scrub, and a good deal of management is required to preserve the rarer plants.

Lime-loving plants include Kidney Vetch (Anthyllis vulneraria), Hairy Rock Cress (Arabis hirsuta), Bloody Cranesbill (Geranium sanguineum), Lesser Meadow Rue (Thalictrum minus), Meadow Oat Grass (Helictotrichon pratense), Rockrose (Helianthemum nummularium) and the local rarity Dropwort (Filipendula vulgaris).

Dropwort is related to Meadowsweet (Filipendula ulmaria), and the flowers are very similar if somewhat larger. It lacks the fragrance of Meadowsweet, and its leaves are very fine, rather like those of Yarrow (Achillea millefolia). It's rare north of the Border.

On the track we found some Annual Knawel (Scleranthus annua), a funny little green plant, an unlikely member of the Rose family, which likes bare dry open soils and tends to be found on volcanic outcrops in places like the Garvold Hills.

The total plant list was well over 100, including weeds, seaside and woodland, as well as grassland plants, a good total for a relatively short walk. There were Fulmars on the cliffs, and I was pleased to see a Thrush hopping about in the scrub as we made our way back to the cars, for these once common birds are apparently in decline.

JACKIE MUSCOTT

CRAIGIE WOOD

Date Wednesday, 16th July
Leader Mrs. Eunice Smith

For many people Craigie Wood is an undiscovered gem even though it easily accessible from Edinburgh for a leisurely walk at any time of the year. However since there was likely to be only a small area suitable for car parking the group met first in Cammo Road and arranged to share cars. There was a second reason for this manoeuvre - it is possible to miss the turn off the Queensferry Road and travel over the Forth Bridge rather than enjoy a distant view over it!

'Nature' was at our feet as we stepped out of the cars at the beginning of our walk - not only in the shape of plentiful mud and puddles but, a little further back, in a prolific display of orchids delighting our eyes. We made our way, in our usual stop-and-start fashion, along the roadway, into the wood and up through the trees. The wood has low level paths, high level paths and gentle or tougher scrambles that will get you from one to the other.

As we gained the upper path and began to walk away from Edinburgh we came across giant 'pincushions' of stunted Gorse. From the top, magnificent vistas extend eastwards over the Forth out to sea and also westwards upriver towards the two bridges - one displaying its century-old geometric 'chunkiness' and the seeming slightness of the other belying the volume of traffic which it carries. Other views over the countryside appear unexpectedly and on that evening we puzzled over how they related to the glimpses of the motorway and small roads with which we are so familiar when en route to meetings further afield. An additional interest to the wooded areas and the more exposed hilltop is the extensive abandoned quarry area. Caution is required on approach to this area and young children and the unwary should be kept in check. It is not wise to venture to the rim as the drop is quite severe and some of the edges of the higher areas are unstable.

Up to the top, as we turned our backs on the first views of the quarry, several specimens of Coltrichia perennis were found. This sturdy low-growing fungus is less than 3 inches high with a disk-shaped top and a hard rather sculptural appearance. This sloping area must be to its liking as it occurs here regularly. The base of the quarry is colonised by scrubby Birch and Buddleia and the sides provide varied habitats for plants. We suspected that there was a range of mammal occupation as evidenced by scuttling four-legged (but unidentified) figures.

The base of the quarry is too dry for a rich flora; it's fine for the buddleia however, and for a rather large patch of Hemlock (Conium maculatum). But the botanists got excited by a new colony of a rare Mullein, subsequently identified as Twiggy Mullein (Verbascum virgatum) which has purple anthers and green non-hairy leaves.

The Woodcock which had risen out of the undergrowth

and 'planed' its way upwards through the trees on a visit a week or so earlier failed to make an appearance but we had explored the wood, looked at plants and fungi and enjoyed our elevated position. We knew that it was a place that held much more than we had found and, as we turned homewards, our evening walk was graced by a glorious sunset.

EUNICE McA. SMITH

QUEEN ELIZABETH FOREST PARK

Date Saturday, 19th July
Leader Ian McCallum

A group, perhaps small in number, but certainly enthusiastic, set off by bus heading north-west to Aberfoyle to visit the Queen Elizabeth Forest Park which is one of the finest of Forestry Commission Parks extending as it does from Loch Vennachar and the headwaters of the Forth in the East, over the summit of Ben Lomond to the shores of Loch Lomond on the west and embracing much of the well-known area of the Trossachs, made famous by Sir Walter Scott in his writings and in other ways by Rob Roy and his exploits.

At the entrance to the Park there is the David Marshall Lodge, gifted to the Forestry Commission in 1960 by the Carnegie Trust and named after a former chairman of the Trust, Mr. David Marshall. Inside the Lodge there is a fine display of Scottish crafts and much helpful information about the Park and all it has to offer. From the windows there are magnificent views in all directions of the surrounding countryside, each showing a different aspect.

It was at the Lodge that we met our leaders for the day, Ian McCallum and Dick Hunter, both from Glasgow. In one group we descended to the waterfall - "The Waterfall of the Fawn" - and there separated, the larger more energetic party going upwards with Ian and the smaller one remaining with Dick to enjoy his leadership in finding and identifying some of the wild flowers, grasses, sedges etc. of which there were very many. Near the waterfall, before parting with the climbing group, a Dipper was seen and apart from the one Blue Tit later observed, that was about all in the way of ornithology for this party.

Of ferns we found Male and Lady Fern, Hard Fern and Hart's Tongue and the delicate sweet-smelling Lemon-scented Fern so easily recognised (and we hope remembered) once pointed out to us.

For the home economist, there were ripe Raspberries, Rowans, Elderberries and Brambles almost ready, and much evidence of Blaeberry growth. (Thoughts of wine and jelly making).

Of wild flowers there was a wealth:

A large patch of Marsh Bedstraw (Galium palustre) snow white in the sun, caught the eye.
Meadowsweet (Filipendula ulmaria) in abundance.

Enchanter's nightshade (Circaea lutetiana)
Lesser Stitchwort (Stellaria graminea)
Eyebright (Euphrasia nemorosa)

Then in deeper shades:

Climbing Corydalis (Ceratocarpus claviculata)
Tormentil (Potentilla erecta)
Marsh Hawk's-beard (Crepis paludosa)
Figwort (Scrophularia nodosa)
Nipplewort (Lampana communis)
Cow-wheat (Melampyrum pratense)
Meadow Vetchling (Lathyrus pratensis)
Elegant St. John's Wort (Hypericum pulchrum)
Cat's Ear (Hypochaeris radicata)
Bog Asphodel (Narthecium ossifragum)

In purple tints were -

Self Heal (Prunella vulgaris)
Hedge Woundwort (Stachys sylvatica)
Rosebay Willow Herb (Chamerion augustifolium)
Broad-leaved Willow Herb (Epilobium montanum)
American Willow Herb (Epilobium ciliatum)

Umbels noted were:

Angelica (Angelica sylvestris)
Hogweed (Heracleum sphondylium)
Rough chervil (Chaerophyllum temulum).

There were just too many grasses etc. to be examined in detail and identified in the time available but our leader could give both Latin and common names for all and 'easy' ways of remembering.

Retracing our steps we came again to the waterfall near which there was a small plantation of Norwegian Spruce (Picea abies), the authentic Christmas tree.

Finally we returned to the area of the Lodge where on the pond by the car park there were Mallards, colourful in the sun, the drakes very splendid with their burnished blue/green heads. Bogbean grew along the water's edge. A restful scene.

A very informative 'woodland walk' and our thanks went to Dick Hunter for patiently passing on his knowledge. Echoing Goldsmith's villagers of long ago - 'the wonder grew that one small head could carry all he knew'. Thank you, Dick.

ANNE DAVIDSON.

Betty gives an account of the eager beavers who tackled the hill.

Ian led a longer walk up to Lime Craig Quarry while Dick Hunter led a shorter low level walk.

There was a large variety of things to be seen. No sooner had we started than we came to an area with the Blusher Fungus (Amanita rubescens) in all stages of development. Here too on a dead branch was a slime mould which was a lovely lemon yellow colour. Later

rusts and smuts were examined by a few members.

As we crossed a little stream a Dipper flew low over the water, Wrens were heard and a Wagtail joined us during our lunch stop.

There are information boards from time to time by the path. One of the first we stopped at was by an outcrop of slate - a low grade metamorphosed mudrock. Slate was quarried for over 200 years from Aberfoyle Quarries. Leaving the main path we made our way down to the 'Bat House'. This old building had been an adit to the slate mine and was now a winter roost for bats. Peering through the doorway we saw dead bats on the floor. By the path to the Bat House we came on an area of rushes covered by patches of spiders' webs lying horizontally. Insects seen included Soldier Beetles and Dor Beetles.

There was an abundance of sedges and rushes which we are beginning to recognise (sometimes) from previous outings. Among the grasses Purple Moor Grass (*Molinia caerulea*) a late flowerer was a new species for some of us. As well as many of the commoner flowers we were interested to see Bog Asphodel (*Narthecium ossifragum*), Trailing St. John's Wort (*Hypericum humifusum*), Slender St. John's Wort (*Hypericum pulchrum*), Yellow Mountain Saxifrage (*Saxifraga aizoides*) and Yellow Pimpernel (*Lysimachia nemorum*).

The last information board before our lunch stop marked the Highland Boundary Fault and we were glad to sit down for lunch below Lime Craig Quarry. In this area about 450 million years ago two major tectonic units were brought together forming the Highland Boundary Complex. Later small pulses of magma rose to form dykes. We saw one such just behind the heaps of quarry waste and behind that again (to the SE) a great wall of conglomerate (Puddingstone). Here rounded boulders and pebbles are embedded in a matrix of red shale. Due to faulting this conglomerate bed continues in a SE direction and lies beneath the present land surface between the Highland Boundary Fault and the Ochil Hills. The quarry was abandoned over 100 years ago and leaves an area rich in vegetation. In the area we also saw butterflies - the

Small Tortoiseshell, Ringlet, Small Pearl-bordered Fritillary and an unidentified white. The somewhat steep and stony path by which we made our way back followed the route of the old railway which took limestone down to the kilns. The site of the kilns can still be seen. Most of the quicklime obtained was used for plaster, whitewash and fertiliser.

We were glad to return to the David Marshall Lodge in time for a welcome cup of tea. Thanks are due to Ian McCallum and David Hunter for an interesting and

enjoyable outing.

BETTY MITCHELHILL

ABERLADY BAY

Date
Leader

Saturday, 26th July
Bill Clunie

On a mild day under an overcast sky, a group of some 24 members, some armed with telescopes, set out to view the summertime displays of the Nature Reserve. The tide was out for most of the time, exposing the mud flats of the bay and so allowing a good view of the population of wading birds from the road leading to Aberlady village. From here we saw large flocks of Lapwings, several Curlews, Oystercatchers, Redshanks, and even managed to sight a solitary Whimbrel. We then followed the main path to the sand dunes through fields of Meadowsweet (*Filipendula ulmaria*). Also in bloom and prominent amongst the large variety of flora were patches of the deep blue Viper's Bugloss (*Echium vulgare*), some Tufted Vetch (*Vicia cracca*) and splendid specimens of the Musk or Nodding Thistle (*Carduus nutans*).

Continuing along the shore we noted a flock of Terns, mainly Sandwich with a few Arctic, gathering on the beach, and a few Pied Wagtails with young, flitting along the tide line. A lunch stop was made at Gullane Point where the behaviour of sea birds made fascinating viewing. Amongst these were diving Gannets, aggressive Black-backed Gulls, also Black-headed and Common Gulls. A fair-sized flock of Cormorants was perched on low-lying rocks, and large numbers of Eiders together with a few Puffins swimming offshore. The behaviour of 3 Skuas in the distance attracted much attention. Their presence marked the onset of the migration of these birds westwards along the Forth

Valley during August and September. On the return across country to the car park, we were pleased to see many plants of the delicate Grass of Parnassus (*Parnassia palustris*) which is gradually becoming more abundant in the Reserve. In the marshy flats, along the Southern side of the bay, the sound of a Grasshopper Warbler was heard and a solitary Sparrowhawk was spotted in the sky above. In all, this was a rewarding day and our thanks are due to Bill Clunie, who led us around the course, helping to identify the birds of interest.

MARGARET PERRY



Date Wednesday, 30th July
Leader Mrs. Elizabeth Farquharson

A group of 14 met on a fine evening for what proved to be a most interesting and unusual evening.

Our leader Elizabeth Farquharson started off by telling us about the murder of the Laird of Warriston in 1600. His young wife was being abused by her husband and her nurse suggested the killing. Servants were involved including the man who tended the horses. The Laird was strangled on 1st July 1600. Lady Warriston and the women servants were tried and found guilty and executed on 5th July. Evidently status dictated the form of execution. As a concession, Lady Warriston was beheaded by The Maiden at the Canongate. The nurse and one of the women suffered the gruesome method used at the time: they were strangled and burnt at the stake on Castlehill. Although carried out at 4 am, a crowd had gathered to witness this. The manservant who appeared to have carried out the killing was not found for 4 years. Tried, found guilty, his punishment was to be broken upon the Wheel. Grim times!

Elizabeth then gave us some of the history of the Village of Canonmills. David I built the first mill early in the 12th century on the South side of the Water of Leith. This was for the Augustinian Canons of Holyrood. At the Reformation the mills became the property of the Logans of Restalrig then they were bought by Edinburgh Town Council in 1617. All the Canonmills bakers (BAXTERS) were thirled to grind their corn at Canonmills. At the Canonmills garage one can see an old lintel marked ' THE BAXTERS LAND 1686 ' Local names give us the clue to some of the trades in the village: gunpowder at Powderhall; beaver hats at Beaverhall; tanning of skins at Tanfield and metalwork at Silvermills.

Canonmills also had a loch, drained in 1860 and 5 years later it became an outdoor Pleasure Ground. In the late 1880s the ground was taken over by St. Bernard's Football Club, known as 'The Saints'. The Army moved in during the First World War and left the ground badly damaged. The club struggled on until 1942 when the last game was played. The ground is now King George V Park, off Eyre Place.

However, back to Inverleith and Warriston: Edinburgh was starting to spread to the North.

- 1820 14 acres was bought from the Rocheid Estate for the new Botanic Garden.
- 1823 Building of Inverleith Row houses started.
- 1840 The single arch bridge at Canonmills (built 1761) was replaced by a larger 3-arch bridge widened in 1896.

In 1843 Warriston Cemetery was opened on a 14 acre site bought from the Kincaids of Warriston. At that time the town graveyards were all overcrowded and there was concern for the health of the people living nearby. Warriston was the first of the company cemeteries in Edinburgh. Laid out as a garden cemetery, it already had some well established deciduous trees. Wide paths were designed to allow hearses to approach the gravesides. This forced the discontinuance of the unhealthy practice of 'Spoke and Shoulder' funerals. The development coincided with the building of an embankment which the Edinburgh and Leith Railway Company ran through the cemetery. It meant that a small part of the cemetery was beside the Water of Leith. The layout provided for thousands of graves and through the years these filled up. Neglect became evident; there were worries about speculators with building ideas. In 1993 the various town cemeteries in private company hands were acquired by compulsory purchase orders by the Town. An overhaul is now underway, checking the safety of stones, laying some flat, clearing the ground and cutting the grass where possible. This is labour-intensive work, costly and will take years.

Elizabeth then gave us copies of the comprehensive tree map prepared by Graham White and also a simplified map of her own which picked out the trees we were going to look for. Armed with maps and minds ticking over with all this local history we started on our walk. Early on, we passed a stretch of 'uncut' Garden Privet (Ligustrum ovalifolium) in full flower, with its strong smell. Circling then to the East Gate we could see the heavy chain had been cut allowing the gates to be forced by people shortcutting the cemetery.

The unusual trees started to appear:

<u>ELM</u>	
Cornish	Ulmus carpinifolia var. cornubiensis
Camperdown	Ulmus glabra var. Camperdown
Huntingdon	Ulmus x hollandica 'Vegeta'
<u>OAK</u>	
Red	Quercus rubra
Sessile	Quercus petraea
Holm	Quercus ilex
<u>HORNBEAM</u>	Carpinus betulus
<u>WALNUT</u>	Juglans regia
<u>POPLAR</u>	
Italian Black	Populus nigra var. betulifolia
<u>PINE</u>	
Corsican	Pinus nigra var. maritima
<u>WHITEBEAM</u>	
Swedish	Sorbus intermedia
<u>WING-NUT</u>	
Caucasian	Pterocarya fraxinifolia
<u>LOCUST</u>	
Black	Robinia pseudoacacia (False acacia)

The outstanding tree was undoubtedly the Caucasian Wing-nut, festooned with its fruits. One retrieved flowerhead had its fruit divided up and we could see the 'wing and nut'. Some of us will try to grow from these.

While walking around, people kept breaking off to examine the gravestones. Many notable people were buried here from all walks of life. Some trades are no longer worked at. One famous man, Sir James Simpson, who discovered chloroform and died aged 58, is here, predeceased by 5 of his children. We were surrounded by ornate and elaborate stones - obviously there was a lot of employment in the craftsmanship on these. One member told me as we went round that she had a grandfather buried here. Long afterwards, two of the family had looked in vain for the stone.

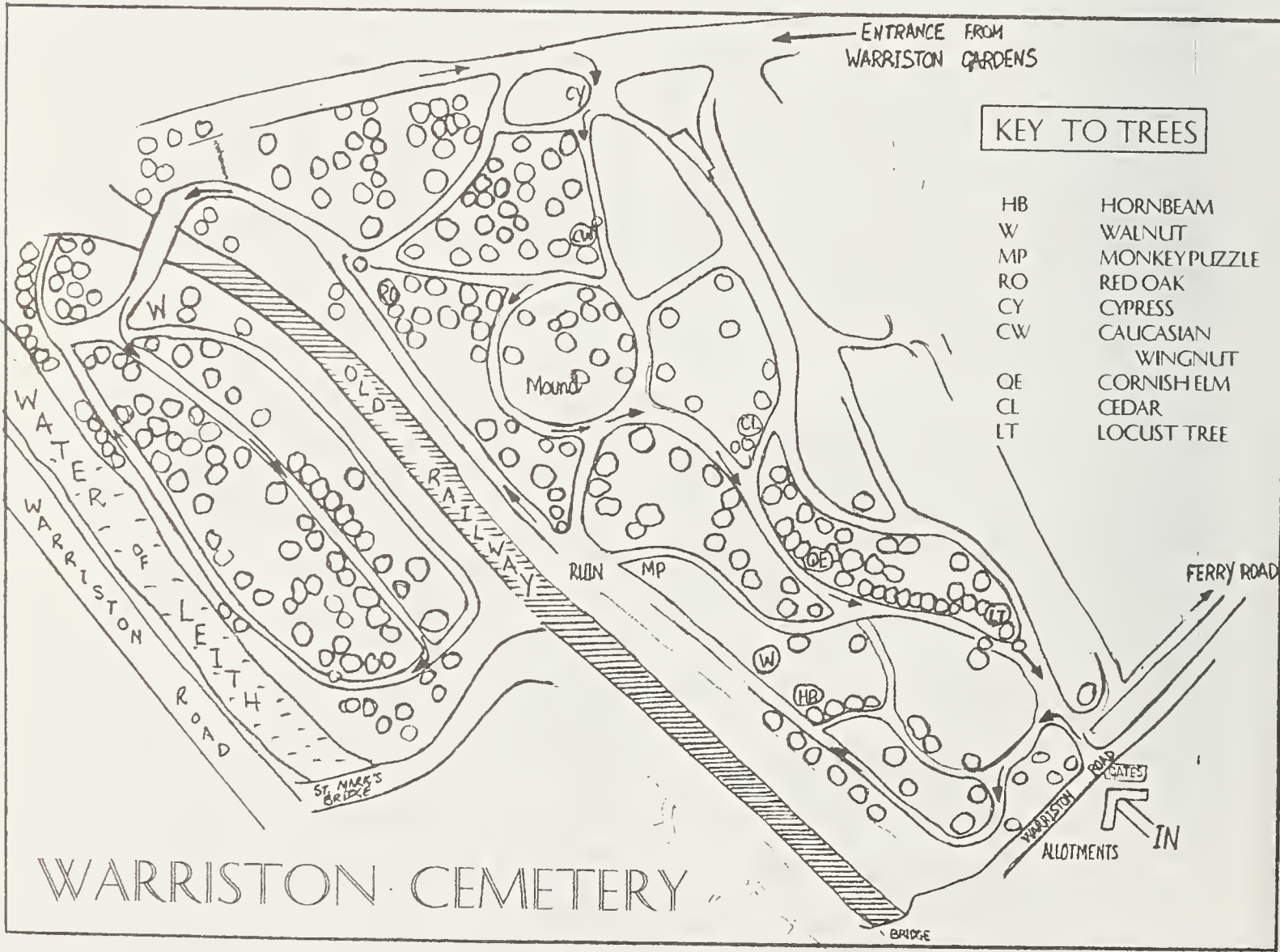
Elizabeth led us through under the bridge and we had a look at the Water of Leith. The great source of power when all its many mills were working, it now looks clean, though people still throw refuse in.

People are fishing again in its water. The railway line, now a cycleway, is well used, with cyclists going through the cemetery to other parts.

Most of the trees in the list were traced, although one or two were missing. Considering that 150 years have passed since the cemetery opened, as well as the years of neglect, it is quite remarkable. We had a head count before we got on to the main path leading to the lodge gate where our cars were parked. The light was failing as Elizabeth was thanked for this outing in unusual territory for the Society. All her information about Warriston and Canonmills has made moving around the area much more interesting. One realises that Canonmills is still a village in many ways.

To finish on a cautionary note - Warriston Cemetery is not the place to walk alone! That message I picked up from a book on Warriston, apart from realising this when walking around.

DOROTHY STUART



LAMMERMUIR EDGE WALK

Date Saturday, 2nd August
Leader Mrs. Margaret Watson

The programme had NT652736, near the bridge, whereas it should have had NT655737, by the ford, where Margaret Watson was waiting to lead the outing. Only a little over 300 metres apart, but the two positions were out of sight of one another; it took Graham to discover what had happened and rectify the situation. Twenty minutes late, the party of fourteen members set off from the ford on a fine summer day when harvesting was in full swing and the welcome breeze was from the East. The shady path lay up the burn passing under the steep slope up to the Chesters prehistoric fort. Margaret said at the outset that she could not promise anything particularly unusual in the way of natural history, but interest was aroused almost immediately by a Meadow Brown Butterfly (there had been many more a few days before) and several members who have been making a determined attack on identifying grasses were soon engrossed with the problems of sorting out those along the track. A little further on, out in the open, the burn was covered in a fine display of Mimulus sp. and Watercress (Rorippa nasturtium-aquaticum agg.).

The way ahead was then by a farm track which led uphill. It was Jim's keen ear that picked up the haunting call of a quail; in the Field Guide, it is described as "ventriloquial", characteristically tri-syllabic with emphasis on the first syllable, an oft repeated KWIC-kwic-ic. Once heard it is unlikely to be forgotten. Perhaps it was the attention we were giving to trying to see the bird in the barley field or perhaps it was the words exchanged with the farmer going home to lunch, but at this point an important turn off to the right was missed. Fortunately, Bob Smith's intimate knowledge of the area soon had us back on track and lunch was taken by a hillock overlooking Woodhall Green.

After lunch, the Dean was crossed at its upper end and the clear track then led on to Dunbar Common towards Watch Law. The views to the North across the Forth and sweeping over the Lothians were magnificent in the sunshine. We turned off down a small valley, where Juniper (Juniperus communis) was plentiful; some of the fruit was already almost ripe. And so on to the track leading to Halls farm, and back to the path by the burn on which the walk had started. It had been a thoroughly pleasant outing and Margaret Watson was duly thanked for once again introducing us to a delightful part of East Lothian.

ANDREW GILCHRIST

RED MOSS, BALERNO

Date Wednesday, 6th August
Leader: Jim Stewart

16 spider hunters aged 23/4 upwards assembled at Threipmuir Car Park for this evening excursion led by Jim Stewart. Jim handed out equipment for catching and retaining spiders, and explained that spiders differ from insects in several ways.

(Read last year's Journal for details)

We collected spiders mainly by thumping birch and heather so that their inhabitants fell onto an upturned umbrella or a white sheet or wooden board. Before the spiders could scamper away they were sucked into a plastic pipe (a 'pooter') and released into tubes or tumblers where they could be studied in more detail. The thumping exercise also disturbed 4 kinds of ladybird adults, various unidentified ladybird larvae, robber flies, immature shield bugs, ants, aphids and other insects.

Jim identified adult spiders of 5 species and immature spiders of a further 4 kinds, being:

ADULTS

Dictyna arundinacea
Xysticus cristatus
Pardosa amentata
Araneus diadematus
Linyphia triangularis

IMMATURES

Drassodes sp.
Clubiona sp.
Philodromius sp.
Metellina sp.

Only the fading light and the midge bites brought the meeting to an end. In over 2 hours the group had travelled only 100 yards from the car park but had been completely absorbed in trying to collect and identify the residents of Red Moss. We brought back 3 ladybird larvae, 2 of which pupated 6 days later and emerged as adult cream-spots on 17th August.

DAVID ADAMSON.

ESPERSTON QUARRY

By kind permission of Mr. R. Osborne.

Date Saturday, 9th August
Leader Bill Baird

The party met at Middleton Lime Works turn off from the A7(T) and proceeded to Esperston in convoy. Cars were parked in the grass field by the old sheep fanks and the group went first to the old Esperston Lime Quarry. This quarry was worked in the Bilston Burn

Limestone of the Carboniferous Lower Limestone group. There was a brief introduction giving a history of working at the site. Extraction had been going on for over a hundred years until the 1950s and sporadically even later. Initially all limestone from both quarries was burned, but latterly a grinding plant was installed. The uses of the limestone and burnt lime products was explained. Although fossils are not common at this site, some members of the party did manage to find a few. These were typical Carboniferous marine invertebrates and included Brachiopods and Gastropods. The strange *Cauda galli* markings were well displayed in a sandstone block fallen from the rear of the quarry. While turning over stones looking for fossils, several daytime spiders' webs were found on the underside. In the damp areas at the south east end of the quarry Lesser Spearwort (*Ranunculus flammula*) and at least two dense stands of orchids were visible. Unfortunately the flower pikes had gone over and it was not possible to give a precise identification from the withered petals. However, as we walked back to Esperston after lunch, a fine stand of Felwort (*Gentianella amarella*) was found amongst the grassed over ridges and spoil heaps of the old limestone workings. By the edge of the track between Esperston cottages and the farm, Quaking Grass (*Briza media*) was common.

After a brief look at the old farm buildings, including a small grotesque head incorporated in the stone work, the party went up the Latch Burn towards the disused Chester Hill quarry. This quarry had been worked in the North Greens Limestone also in the Lower Limestone Group of the Carboniferous. On the way to the quarry a number of common butterflies, including the Common Blue were seen in a rich calcareous flush beside the burn. The fact that in places this burn runs underground was a feature due to the acid nature of the burn water running off peaty moorland and the underlying calcareous rock. In the quarry a group of fully grown Buzzards was seen at close quarters by the first members of the group. They were probably an adult and two young. A stoat in hot pursuit of a rabbit was also watched for a few moments before they both passed out of view. The damp bottom slacks of this quarry were again covered in orchid spikes which had gone over. It was difficult to be precise about the species without a good look at the flower spikes and the group made a resolution to return in summer '98 to examine them in full flower. Before leaving several specimens of the fossil root *Stigmara* were found and examined in the large stone blocks scattered around the upper margins of the quarry. On the return to Esperston the party came to a dry stone dyke in need of some repair and the leader gave a brief explanation of the intricate manner in which they are fashioned.

BILL BAIRD

Further information:

'Lime kilns and Lime burning' by Richard Williams Pamphlet Number 236 in the Shire series of booklets.

For more detailed knowledge:

Geological Survey's books on 'Lime Burning

SAUGHTON WINTER GARDENS

Date
Leader

Wednesday, 13th August
Mr. Ron Baillie

On a very wet evening ten members of the Natural History Society met in the car park at Saughton Winter Gardens. Rain dropped steadily from the trees overhead and the swollen Water of Leith flowed by. Not a very enticing start for an evening out of doors. Our leader Ron Baillie led us, appropriately enough, to a Weeping Ash tree and once under its sheltering branches explained that part of his project for that evening had been the observation of bees and ladybirds of which on a sunny period there are plenty in the vicinity. Unfortunately not so that night. Inside the railing beside the Water of Leith, Keeled Garlic (*Allium carinatum*) was growing well.

Beginning by a walk round the herbaceous border it was noticed that there was a mix of plants and in the Rose Garden the very large variety of blooms represented much work and care by the City Gardening Department. The sun-dial, with four faces and several morbid thoughts engraved on it was an object of considerable curiosity. Much thought too had been given to blind people in the planning of the Herb Garden. By the feel of the leaf and aroma of the plant it could be identified by a sightless person. For us it was good to see and recognise well-known herbs such as Fennel, Rosemary, Basil, Water Mint, Thyme and several others.

Leaving the Park we crossed the main Balgreen Road and walked part of the Water of Leith Walkway - the section from Balgreen to Roseburn. By the edge of the water Himalayan Balsam (*Impatiens glandulifera*) grew in profusion in shades from white through to purple. This plant has found its way into our rivers and streams and, like Giant Hogweed (*Heracleum mantegazzianum*) is spreading rapidly. It was pointed out that its flowers are a great source of food for bees and later in the evening we saw a few of them entering the hooded flower heads, emerging white with pollen. Noted also were large leaves of Butterbur (*Petasites hybridus*) the flowers of which appear early in the year and are also a source of pollen.

Along the pathway had been planted a row of trees - a hybrid of White and Grey Poplar. We saw a cut-leaved Bramble, and in a wooded area (part of the old Balgreen Estate), Swedish and Finnish Whitebeam; both of these are different hybrid forms of Whitebeam and Rowan. In this area there was also Nettle-leaved Bellflower (*Campanula trachelium*), similar to the Giant Bellflower (*C. latifolia*) but its lowest leaves are heart-shaped. Over a well-built stone bridge a train rumbled past - the main line Waverley to Glasgow. Our leader digressed to inform us that in 1908 an International Exhibition had been held at Saughton and a Railway Company had then established a stopping place for the convenience of passengers to the Exhibition.

This was known as Balgreen Halt and although for many years was not in use it has now reopened. The cost of

the fare at the time of the Exhibition was 2½ d (old coinage).

Having raised our eyes to the level of the parapet bridge we saw a small clump of Toadflax (Linaria vulgaris) growing from the stonework. It was a surprise to find a small patch of Hops (Humulus lupulus) with tendrils climbing up surrounding trees and shrubs. It was thought this might originally have come from a delivery by rail of hops to one of the many breweries which once thrived in the vicinity and of which some still remain.

ANNE DAVIDSON

NEWHALL FARM , LILLIESLEAF

Date Saturday, 16th August
Leader Mr. Hugh Chalmers

On a warm sunny day, 11 members gathered at Newhall with F.W.A.G. Conservation Adviser, Hugh Chalmers (kindly standing in for Derek Robeson). The farm of some 70 ha. is owned by a keen conservationist who has taken advice from F.W.A.G. (Farming and Wildlife Advisory Group) on woodland plantings, conservation headlands and grass strips alongside hedges, all grant-aided within the Central Borders E.S.A. (Environmentally Sensitive Area) Scheme.

The 1 mile circular walk encompassed dry grassy farm tracks and an attractive loch, Newhall Moss. As "specially identified" wetland this attracts grant-aid to replace arable cropping in the catchment area with non-fertilised grass, to minimise nutrient run-off and eutrophication.

Along the grassy farm track grew Red Bartsia (Odontites verna) in some profusion, and more surprisingly numerous plants of Scarlet Pimpernel (Anagallis arvensis). Also noted were Wall Speedwell (Veronica arvensis), Cut-leaved Cranesbill (Geranium dissectum), and on the field margin, Field Speedwell (Veronica persica) and Fumitory (Fumaria officinalis).

The loch was attractively fringed with Reeds (Phragmites australis), Reed Canary Grass (Phalaris arundinacea), Amphibious Bistort (Persicaria amphibia), Bogbean (Menyanthes trifoliata), and Greater Willowherb (Epilobium hirsutum), along with the occasional Common Water-Plantain (Alisma plantago-aquatica), Water Mint (Mentha aquatica), Water Forget-me-not (Myosotis scorpioides), Purple Loosestrife (Lythrum salicaria) and Greater Spearwort (Ranunculus lingua).

Numerous Azure Damselflies skimmed over the vegetation, as did a Red Darter. Further east, barley straw bales had been placed at the water's edge by fishermen to reduce algal growth. Rotting barley straw* releases a chemical toxic to the algae.

After lunch, and armed with a map supplied by the leader who hastened away for duty at the Peebles Show, the afternoon's highlight was locating, in two barer areas of a new coniferous plantation, the deep pink flowers of Maiden Pink (Dianthus deltoides).

Beyond a pond crammed with Bulrush (Typha latifolia) and non-flowering vegetation, we came to the Ale Water and the last stretch of the walk. Here an unusually large-leaved Ash was dubbed the "Ale Ash" - perhaps a sign of sun-stroke at the end of a warm but enthralling outing!

GRAHAM SWIFT

* Interestingly also seen at Gartmorn, Page 32.

ELLEMFORDE BRIDGE to
ABBEY ST. BATHANS
(and return)

Date Saturday, 23rd August
Leaders: George McDougall and
 David Adamson

This walk of some 7-8 miles consisted mainly of the part of the Southern Upland Way that wends its way through the coniferous Roughside Wood beside the Whiteadder until it reaches Abbey St. Bathans. The Whiteadder was then crossed by the Gurcha Bridge and recrossed 1/2 mile downstream opposite the trout farm. We stopped to eat lunch hurriedly before too many wasps discovered our food; to visit the church and cemetery with its 17th century carved headstones, and to slake thirsts at the tearoom. On the return journey we climbed Abbey Hill for a better view of the Whiteadder Valley and the Southern Lammermuirs. The walk lasted some 6 hours and was surprisingly rich in natural history interest. In Roughside Wood, Sphagnum Moss and a rare colony of Staghorn Clubmoss (Lycopodium clavatum) were fruiting in their different ways. Further on, the path emerged from the wood amidst an abundance of Goldenrod (Solidago virgaurea). We ate lunch almost in view of Abbey St. Bathans with Burnet Saxifrage (Pimpinella saxifraga) still flowering. Goldcrest and Long-tailed Tits fed in the nearby conifers, and the scribe later saw a young Redstart at the same spot, as well as a Great Spotted Woodpecker climbing a telegraph pole. On the churchyard wall was Yellow Corydalis (Pseudo-fumaria lutea), a garden escapee. Across the river in Oak and Cypress woods were a few fungi and, on a Meadowsweet (Filipendula ulmaria) flower, the largest spider that most of us had seen in the wild in Scotland. Despite Jim Stewart's excellent tuition 2½ weeks earlier, we were unprepared for such a beast, and could marvel at it but not give it a name. (Jim has since identified it as Araneus quadratus.) By the tearoom was Good King Henry (Chenopodium bonus-henricus) and in the patio garden pots were Tree Fern (probably Dicksonia antarctica) and assorted exotic species.

Abbey Hill was dry and closely grazed but had many

white Puffball fungi. Two species were probably present: the Giant Puffball (*Langermannia gigantea*) and a smaller *Vascellum* or *Bovista* species. The return journey through Roughside Wood was notable for a crossbill, and for the fierce debates between Eunice Smith and George McDougall over literary subjects including the merits of the poet Burns and the status of the Anglophobe McDiarmid. Despite agreeing that the latter was not of the highest rank, their continuing noisy banter ensured that any wildlife with ears and capable of movement had fled the area before our party arrived on the scene!

Our thanks to George McDougall for a well-researched and entertaining day.

DAVID ADAMSON.

MUSSELBURGH LAGOON

Date Saturday, 30th August
Leader Ron Baillie

This was an outing of General Interest, starting with concentration on what might be called ground work with plants on rough ground, and only later did I give more attention to the birds. There are always plenty of them: Gulls, Ducks, Waders; but I was most interested in the extraordinary number of Mute Swans in the mouth of the Esk. At a rough count there were a hundred, but more parties were further out. I have seen maybe 25-30 there but not that number. The Scottish Bird Report for 1995 does not mention Musselburgh as a moult site, but gives 150 at St. Margaret's Loch that year. Just having a day at the seaside maybe!

Later we had good views of Merganser in 'rafts', Eider Duck, Cormorants; a party of Turnstones flew along the sea wall. Swallows had gathered at the sluice gate and young ones were lined up on the rail. A small flock of Waders gave us a problem of identification. They seemed Golden Plover size, but only on reflection later did I decide they were probably Knot. Too late for choruses of "not Knot". It is in writing now.

ELIZABETH LANDELLS

M.V. GARDYLOO

Date Tuesday, 2nd September

It was 'All aboard the Gardyloo' for the annual sea-watching excursion. A full complement of 12 passengers sailed out of Leith on a fine, sunny morning with a light S.W. wind which was forecast to increase during the day with the possibility of rain, as a front crossed the country from the West.

We breakfasted while the ship was loading up its cargo of sewage. Normally the Gardyloo makes two or three trips weekly but during Festival time more trips are necessary (another aspect of tourism!). Interesting

and expert manoeuvring is necessary to get the ship through the lock gates and into the river. Meanwhile bird watching got off to a good start: Turnstone, Cormorant, Common Tern (adult and juveniles) and three species of Gull - Herring, Black-headed and Lesser Black-backed being spotted. Six Siskins and then a small flock of Linnets flew overhead and a dozen Ringed Plovers flying low over the water were added.

Eider gather offshore in considerable numbers and there were Kittiwakes, Fulmars, Gannets, Sandwich Terns and Guillemots, all with young. The young Guillemots stay close to one of the parents and could be heard calling loudly as we sailed past, usually causing parent and offspring to dive to safety. Soon the first Skua was sighted - an Arctic Skua chasing terns in the hope of stealing food from them; then our first Manx Shearwater, soon followed by a group of 23. Common Seals were basking on the rocks of Inchkeith and on one of the marker buoys.

As we headed out past the Bass Rock and the Isle of May, a couple of Little Terns, 3 Razorbills, Puffins, Shags, Great Black-backed Gulls, Swallows and a Small Tortoiseshell butterfly were seen. Lunch was served near the turning and dumping point in sight of the Bell Rock Lighthouse. Few birds were seen on the return trip until we were almost back at Leith although a Pied Wagtail almost landed on board before flying on towards the Isle of May, and a Cetacean was glimpsed momentarily.

This year the chief engineer invited us to visit the engine room. Last year the Master showed us the view from the Bridge and the various instruments. Down below was very noisy and pretty technical: two double 8 Blackstone diesel engines each with a crankshaft which join in a gearbox to make one output shaft, thus giving 1800 horse power from a 16 cylinder engine. The cylinders fire in sequence to produce smooth power to drive the variable pitch propeller - it's the variable pitch which gives the great manoeuvrability. The alternators are available to produce power to run the ship at sea and for deballasting, the ballast being 1000 tons of sea water to replace the 3000 tons of sewage. Despite its cargo the ship has to have its own sewage system. The engineer explained that in the old days he would have relied largely on smell to detect engine faults; later, dials were fitted to the various components but he would still have had to walk round checking them, whereas nowadays the information is relayed to a central control panel positioned off in a comparatively quiet room and any fault is signalled by a flashing light and an alarm sounding.

By the end of the trip we had seen 24 Arctic Skuas and plenty of Manx Shearwaters but were a bit disappointed not to have seen other Skua and Shearwater species. The weather forecast was correct as the wind force did increase quite a bit and the sky looked very dark towards the West and over Fife, giving some lovely cloud effects and water colours, but fortunately no rain on us.

Thanks are due to Jim Stewart for organising the outing.

LIZ PILLING

DALKEITH COUNTRY PARK
OLDWOOD

Date Saturday, 6th September
Leaders: Sarah and David Adamson

Despite early rain and the prospect of more to come, 12 members aged 3 to over 65 assembled at the entrance to the park by St. Mary's Church. The themes of this outing were Ladybirds and General Interest, the latter being added because the former cannot be relied upon to appear! The summer had seen an apparent crash in numbers of the seven-spot ladybirds, perhaps due to the high level of parasitism affecting the overwintering adults or due to the cool wet June when many larvae would probably have starved. Whatever the reason, the leaders were pessimistic about the chances of finding ladybirds on a cool, grey, damp day at the end of this summer. Any ladybirds would, if active, be trying to build up fat reserves to help them survive the winter. They may already have achieved this and moved towards hibernation sites. As primary foods could by now be scarce, the ladybirds will eat secondary foods such as nectar, and are often found away from their expected habitats.

The Country Park contains at least 6 ladybird species. Some coastal sites such as Yellowcraigs, can boast at least 8 species. The first ladybirds found on this outing were some Larch and typical 10-spot ladybirds on the same Ash twigs as they were inhabiting 2 weeks previously. This suggests either an easily available food supply or that this was to be a hibernation site. The Ash was a small tree growing beneath Larch trees from which the Larch ladybirds may have come. Nearby was another Larch ladybird on a wooden fence, and a 7-spot, one of this year's brood, on grass. The Larch ladybird lacks the bright colours of most other species and it is easily overlooked.

At lunchtime a Larch Ladybird landed on one of the party; this species often seems to find us, rather than vice-versa. After lunch we walked to the Old Wood, consisting of Pedunculate Oaks with long-stalked acorns and unstalked leaves. Beneath these were some Creeping Thistles with Black Aphids. On the thistles were one or two 7-spot Ladybirds. The deep red colour of the wing cases of 2 of them indicated that these had overwintered and were not of this summer's generation. Another 10-spot was also found, plus a young frog that tried to escape our attention by climbing a thistle. It realised its mistake, posed to allow us a better view, then leapt away to escape.

As rain was threatening we retraced our way to the Park entrance. Our thanks to Philip Menzies, the Ranger, for allowing us access to the Old Wood and providing a map which showed a new approach to it.

DAVID ADAMSON.

DUNDAS CASTLE
FUNGUS FORAY

Date Saturday, 20th September
Leader Mrs. Elizabeth Farquharson

Sir Jack Maxwell-Clark most kindly gave the Society permission to foray in the grounds of Dundas on 20th September. Very few of the group had been there before and were unaware of this lovely estate situated unobtrusively so close to South Queensferry.

From the main entrance we drove up the drive, which is flanked on both sides by Rhododendrons, to the Castle where we turned down a less used drive and parked our cars beside a derelict cottage and a long disused quarry. This brought us close to Dundas Loch.

According to older maps, it had been possible to walk right round the loch, but now the steep slopes of the far side are heavily blanketed with Rhododendrons, and the path has been obliterated. This was of no great concern as there was ideal foraging habitat on the near side, with mixed woodland, open grassland and damp boggy areas. At the start of the foray it was disconcerting to see an enthusiastic young groundsman cutting the grass just ahead of us, no doubt decapitating the fungi we hoped to find! Fortunately he cut only one side of the road.

Shortly after leaving the car park we came across a clump of very white fungi growing on the bank and on some waste ground near by. Unknown by any of us, these caused some headaches well into the night, as identification eluded us. Eventually one of us (M.C.), around midnight, recognised the very bumpy spores amongst illustrations at the back of a book. It was not very helpful that the fungus has changed its name several times - Calocybe constricta in one book, Lyophyllum leucocephalum in another, and illustrated in Phillips under Tricholoma leucocephalum. This last name was confirmed by Dr. Roy Watling.

By lunchtime we had reached the far end of the loch so we picnicked near the garden wall in sunshine and where we could enjoy the view.

In the afternoon we explored more woodland and came upon a second loch, much smaller than the main one and with none of its attraction, but the surrounding ground was damper amongst the trees so some time was spent here.

Early in the day, we saw a Buzzard flying, and on our return a Heron rose from the water's edge. A large family of Swans with fully grown young in grey plumage placidly occupied an island, safe from any disturbance.

Flowering plants were largely over, but a colony of Skullcap (Scutellaria galericulata) at the south east end of the loch was in seed. Musk (Mimulus moschatus), originally from Western North America, which is very rare in the Lothians, was growing in damp areas at the north west end of the main loch. It's a

garden escape which has lost its original musky scent. There were many beautiful trees in the grounds, and amongst these were noted Monkey-Puzzle (Araucaria araucana), Hungarian Oak (Quercus frainetto), and Red Horse Chestnut (Aesculus carnea).

When we returned to our cars we laid out our finds. The tally was lower than we had hoped - around 50 - due to the very dry weather. The majority were well known species; however one uncommon Waxcap - Hygrocybe spadicea - was a good find.

ELIZABETH FARQUHARSON.

THE GOOD, THE BAD and THE UGLY GLENTRESS FOREST

Date 27th September
Leader Mr. M Richardson

Mike Richardson led a lively group of Natural History Society members (and one visiting member complete with expected child - imminent) through Glentress Forest.

As in any wild place, we often forget how many have been there before us - but not Mike! He went home delighted with a sample of rabbit pellets. They took pride of place on his window sill (carefully arranged on damp kitchen paper in Petri dishes) and remained there for several weeks. He managed to identify 15 different species of dung fungi from the small amount of sample material. Of particular interest was Delitschia consociata - a pyrenomycete rarely recorded in Britain. It was first described in Belgium during last century and identified in this country at Callander in 1966. The fungus was also recorded on the Foray organised by the British Mycological Society at Stirling in 1981. Mike has nine recent records for this Delitschia species so it is suspected that it is more a case of it going unrecorded rather than of its place as a rarity. His window sill collection also yielded another species first found in Scotland in the 60s (Hypocopra planispora).

If you have found similar (but unidentified) species on the soles of your carelessly discarded boots take a moment to think what would have happened to the surface of the ground under the trees in Glentress Forest, or any other wild place, if all those 15 species (not to mention the unrecorded ones) had not fulfilled their function. Fungus can be good to have around - not only on the window sill.

As far as the larger fungi were concerned we were delighted to see the beautiful specimens of Arrhenia spathulata beside the path: under the spade-like cap are to be found the typical ridge-like gills which join together towards the base. Earlier, near the beginning of the walk we were intrigued and, at first puzzled, by an Agaricus variegans with its pinkish hue and a smell which is usually associated with

Lepiota cristata.

So much for the good - what about the bad?

We found specimens of Heterobasidion annosum growing on an old tree stump: this fungus is a major cause of serious decay. The fungus develops and fruits so that, in turn, the fresh spores spread to other tree stumps to start their destructive life cycle anew. the fungus not only spreads by airborne spores but also through the roots of the tree; it colonises the roots of adjacent trees and gains a hold - not a good friend to have around. However the spread of the Heterobasidion, in common with some other detrimental fungi, can now be restricted by the application of a competing fungus to freshly cut wood.

Those of you waiting for the appearance of 'The ugly' will be disappointed because there was no record that September day of Lactarius turpis (the slimy fungus with the inrolled stem commonly called "The Ugly Milkcap") but it surely must have been somewhere because it is so common!

EUNICE MCA. SMITH

MILLER'S WOOD

Date Saturday, 4th October
Leader Mr. S Alcorn

At first glance it looked a fair distance to travel to S.W. of Douglas. However Scott Alcorn, our leader, had often come over from Ayr to fungus outings near Edinburgh, so we were keen to see what could be found on his home patch.

Miller's Wood was mainly birch and with 14 eagle-eyed forayers there was a good collection to check at lunch time. Sitting looking across the valley we realised we were opposite a wind farm, 9 working windmills being visible through the mist.

In the afternoon we moved to Happendon Wood which had Beech, Oak and some Pine, but there was only time to explore a little way and we agreed it would certainly be worth a return visit.

Specimens which aroused most comment were a beautiful yellow greasy-capped Pholiota alnicola; Lactarius britannicus which is fairly common in the Clyde Valley but not nearer home; Russula chloroides with its green colour round the stipe just below the gills; the viscid-capped Tricholoma ustale under Beech; and a whole branch of the slimy porcelain-white Oudemansiella mucida.

Scott and his friend Graham from the local S.W.T. are real enthusiasts. That added to the more knowledgeable among the Nats. made for a most enjoyable and informative day. As one who had recently been floundering among the fungi I was grateful and felt I had learned a lot.

JEAN MURRAY.

MUSSELBURGH LAGOONS and
KILSPINDIE

Date Saturday, 8th November
Leader Mr. Charles Pountain

It had to happen some day! Just about every year over the last twenty two this outing has appeared on the Winter Programme Card with reasonable weather most times. This visit was a shocker however - weather wise - with torrential rain from start to premature finish.

Nine hardy members (already drenched) met at eleven o'clock at the mouth of the Esk at Musselburgh. We met Dave Allen the local Ranger who hardly cheered us up by stating that one hour earlier it had been dry and he had counted twenty five Red-throated Divers, several Slavonian Grebe, a Red-necked Grebe and good numbers of Long-tailed Duck, and Velvet Scoter all near the sea wall on the high tide. Dave said 'Pity that, now the rain has come and the wind has got up we won't see much'!

Through steamy binocs and scopes however we did not do too badly at the river mouth with six species of duck: Eider, Mallard, Goldeneye, Goosander, Widgeon and - a good bonus bird - a male Gadwall. A Rock Pipit was in evidence along with the usual common waders. Dave was right though for as we proceeded along the sea wall we saw little else.

Happily however tables were booked for us at the Wagon Inn, Aberlady so we departed the lagoons at one o'clock and off to the Wagon Inn to enjoy an excellent lunch.

As lunch ended did we get back into our still soaking wet anoraks? No, we did not. We decided to call it a day. A day, despite all, that was most enjoyable, good company, good humour, good food.

CHARLES POUNTAIN



Tricholoma Ustale



Oudemansiella mucida



Russula chloroides

FIFE COASTAL WALK

Date Saturday, 13th December
Leader Mr. S. Bonar

On a mild and sunny day there was a large number of NATS gathered around the Fife Ranger. We met where Seafield Colliery used to stand, near Kirkcaldy; now it is a section of the Fife Coastal Path. On the beach and rocks below us we could see birds feeding: some birds such as Curlew, Bar-tailed Godwit, with long bills suitable to probe several inches into the sand; others, like Oystercatchers, with heavier bills to deal with shells. On the rocks Turnstones were flipping aside the seaweed looking for insects. Upwards of 30 Ringed Plover were rushing around, pecking at sand and rock for their food. They run - pause - attack the ground for a new morsel - pause - then rush forward again. In winter, Ringed Plover flock together, wheeling and dipping in flight as if one unit. Dunlin too, were speeding around, pecking rapidly with their short beaks.

On our walk southwards seals, both Common and Grey, followed us on occasion, while others lay out on the rocks.

Flowering by the path we found Winter Heliotrope (Petasites fragrans), and the occasional Common Rockrose (Helianthemum nummularium). Little splashes of yellow signified Whin in flower too. Plenty to enjoy in a new site.

MOLLY WOOLGAR

WINTER INDOOR MEETINGS

1997

22ND JANUARY

Assynt : its Geology and Wildlife

BILL BAIRD

A very well-attended meeting was taken on a visit to Assynt by Bill Baird of the Royal Scottish Museum, who gave an entertaining talk.

The Geology of the area is complicated by thrusting, resulting in older rocks lying on top of newer. That this could happen was the subject of much debate during the second half of the 19th Century between "professionals" (Survey staff - the Doubters) and "amateurs" (academic geologists) and the debate centred on the Assynt area. Peach and Horne finally reported definitively in 1907.

The Moine Thrust zone is at its widest around Assynt, although it runs from the north coast to Skye. Along the coastal area (the "Foreland") are Lewisian gneiss backed by Torridonian Sandstone and then Cambrian sediments. Limestone sediments are perhaps the most interesting part of the last series.

Among the most interesting sites are the Knockan Cliff Trail, Ledmore marble quarry, the caves and sink holes of the Traligill Burn, the Allt nan Uamh caves where caribou, lynx, lemming, reindeer and bear remains have been found, and signs of human habitation and mineral sites on Quinag and Ben More.

There are several prehistoric sites and the ruins of Ardvreck Castle, 1597, and the later Calda House. Nearby, there are signs of one-time millstone manufacture.

26TH FEBRUARY

Ferns: Turning over a New Leaf

HEATHER MCHAFFIE

Another large audience enjoyed a talk which concentrated chiefly on fern identification.

The speaker firstly dealt with allied species, not true ferns but which share with true ferns reproduction through spores. These are the Club-mosses, Horsetails and Quillworts. In addition some true ferns do not look like ferns; e.g. Pillwort, Adder's Tongue. The back of the frond tells us more than the front. There are found the spores, often covered by sporangia. Buckler and Male Ferns have kidney-shaped sporangia, while on the Lady Fern they are comma-shaped. Apart from the shape of these scales or spore clusters, other diagnostic features include the extent to which the leaf is divided, the distribution and colour of stem scales, how close the pinnae come to the base of the leaf stem, the overall shape of the leaf, the angle of the pinnae, whether there are both fertile and sterile leaves (dimorphic), whether the growth is shuttlecock in form or spread along creeping rhizomes. Habitat is often an important diagnostic feature.

The speaker recommended "The Fern Guide" by Merryweather and Hill published by Field Studies Council as a simple and reliable key to identification. She concluded by speaking briefly of the subject of her current research, a type of Alpine Lady Fern growing only in a limited number of high locations in Scotland which are under snow until well through spring in a normal year. Its existence has been known since 1852, but whether it is a separate species or not is still debated.

26TH MARCH

Scottish Butterflies

MALCOLM LINDSAY

Dr. Lindsay took members through the life cycle of the butterfly, from adult, to egg, to caterpillar, to pupa and back to adult. He then discussed the main families represented in the Borders and their habitats. Whereas some such as the Orange Tip, the spring Butterfly of the Borders, spend the winter in the pupa stage, some winter as caterpillars (e.g. the Meadow Brown), and some hibernate as adults locally (eg. the Small Tortoiseshell) and others such as the Red Admiral and Painted Lady migrate.

Others found in the Borders wherever the appropriate habitat occurs, include Small White, Green-veined White, Small Heath, Ringlet, Common Blue, Small Copper, Grayling which aligns itself when at rest to cast the smallest shadow) and Dark Green Fritillary. Only the Large (Cabbage) White, which hatches in a large mass, could be considered unwelcome.

Species which occur more locally in the Borders are Scotch Argus in wet habitats, Small Blue, on an old railway south of Hawick; the Large Heath, on wet, very acid heaths or bogs; Small Pearl-bordered Fritillary on Gordon Moss; Northern Brown Argus on rock-rose on limestone at Williamhope; and Green Hairstreak on blaeberry.

Dr. Lindsay finally illustrated some others which occurred only locally in other parts of Scotland: Purple Hairstreak in the oak canopy; Marsh Fritillary; Large Skipper; Clouded Yellow and Small Mountain Ringlet, Scotland's only montane species found especially in the Trossachs and on Ben Lawers and which flies only in bright sunlight.

The talk was illustrated throughout with excellent slides.

23RD APRIL

Members' Night

Andrew Gilchrist gave an illustrated talk on plants seen on a recent visit to Crete including several endemic to the island.

Betty Smith talked of encounters with an ailing hedgehog, an escaped polecat ferret, a neotenic (in the tadpole state but apparently sexually active) palmated newt, and a vagrant Emperor Dragonfly.

Charles Rawcliffe showed two slides of a large mammal-like growth on a birch in Hermand Birchwood.

Heather McHaffie illustrated ferns and other plants engraved on gravestones.

David Jones showed superb slides of hills and water in Scotland, "living geology" and flowers in Iceland.

Jackie Muscott illustrated the botany of Upper Teesdale as seen on the club's weekend excursion there in 1996

In addition, a number of members contributed interesting items to a display area. Among them was an update on "The Millennium Forest for Scotland" Projects from Michael Osborne. And from Elizabeth Farquharson an interesting and informative exhibit on Edinburgh's Water Supply in the past, which complemented her 1996 Journal account of the outing to Braidburn Valley Park and Comiston Springs on 7th August 1996.

24TH SEPTEMBER

Biodiversity of Scottish Insects

GRAHAM ROTHERAY

Dr. Rotheray, whose main interest is flies, pointed out that insects have a PR problem, being less studied than any other branch of Natural History. Even a recent book on conservation contains nothing about insects except for a few Butterflies. He then went on to redress the balance with a fascinating talk which is summarised on P.7.

29TH OCTOBER

The Seashore - a Changing Environment

DAVID JONES

Seashores are places of continual change. The shore environment is subject to long-term change, as when the sea-level and water temperature altered following the Ice Age; catastrophic change as a result of the great power of the sea; and seasonal and short-term changes in exposure and tidal movements.

The environment of the inter-tidal zone varies from point to point. The sub-strata ranges from silt, through sand, shell and shingle, to boulders and exposed bed-rock. Beaches differ in exposure and slope. The water varies in salinity, the strength of currents, and the tidal pattern. The flora and fauna existing in the zone can be subject to dessication or freezing.

The flora and fauna, therefore, need specialist and sometimes flexible strategies to deal with these conditions. Dr. Jones went on to describe some of these strategies:

Barnacles are able to cement themselves to rock and nourish themselves through movable panels in their shells. Periwinkles are more mobile, able to seek sheltered crevasses where they use a milder cement for attachment. Limpets use a strong "foot" to attach themselves to the rock. Dog whelks are so shaped that they will not roll away. Sponges and sea anemones are subject to the play of waves and currents and avoid damage by taking compressed form.

Different seaweeds take up different positions on the beach, using holdfasts to maintain position. On the upper beach, Channelled Wrack can withstand being left high-and-dry at neap tides, and progressively down the shore come Spiral, Knotted, Serrated and Bladder Wracks. Sandy shores are not usually disturbed below ripple depth and the strategy of Razor Fish, Lug Worms and Cockles is to burrow below this. The inter-tidal zone is a testing ground for marine species, from which some species made their first tentative steps onto dry land.

26th November

The Union Canal in the Millennium

HELEN ROWBOTHAM

The speaker is a Ranger with British Waterways. She outlined the scheme to remove all obstructions to the Forth and Clyde and Union Canals to provide a link between them which is to cost £78 million, and which it is hoped will be completed by 2001. Half the cost is being met by the Millennium Fund and 90% of the remainder of the funding is in place.

22 obstructions have to be removed and rubbish cleared. 10 years ago the canals were in a worse state than today but several road bridges in Glasgow and one in Linlithgow have been raised. and locks in Glasgow have been renewed. British Waterways have already found that improved passage and greater usage leads to less dumping and general environmental gain. Water related businesses may return and experience in England has shown that other businesses are attracted to canal-side locations. An important wildlife corridor will be enhanced.

They have the support of groups of canal enthusiasts, long-established in Linlithgow, and more recent, in Broxburn. Among the larger elements in the scheme will be an extension, aqueduct and tunnel together with a Ferris-wheel to link the two canals in Falkirk, a diversion into the River Carron, and the reopening of the stretch through Wester Hailes, where fortunately no houses are in the way. The canal will be diverted to go under the M8 at a point where the road is higher. The Leamington Bridge will be raised and kept up.

The speaker referred to some interesting features of the canals: 3 major viaducts all designed by Thomas Telford; the feeder reservoirs - Cobbinshaw for the Union and 4 for the Forth and Clyde which because it had locks, lost more water.

Boats on the canal are licensed and restricted to 4 m.p.h. The Monklands Canal might subsequently be upgraded as well.

INCHNADAMPH

6TH - 13TH JULY, 1997

MONDAY

Glen Kirkaig

Margaret Abel, Sandra Stewart, Janet Watson, Roddy Clark and I* arrived at Kirkaig at 11.30am and walked slowly up the path until we reached the falls at 12.45, where we stopped for lunch. We did not see any birds in the first half. Going on about 1.30 by the loop track to Fionn Loch - where we possibly saw a diver (it did not reappear). Margaret saw a Ringed Plover/ Grey Plover/ Sandpiper? Only common flowers seen. There were more 'noticing people' and better weather on Thursday. Weather damp, wet during and after lunch and misty after 3pm.

JEAN GALBRAITH

* The rest of the party followed Jackie up the Traligill Burn (See page 57)

TUESDAY

Botanising

We woke to a glorious morning after the low cloud and drizzle of the previous day.

Ian and Pat Evans kindly organised our day, taking us on the Stoer road to the Port Allt nan na Bradhan. Here is a dyke in the gneiss through which a stream runs down to the sea. Many years ago a miller had utilised the water power and built a click mill to grind the local grain. This is a type of small mill found frequently in the Highlands and Islands. Three mill stones were still lying in the grass. Several good plants were growing: of special note was Wood Bitter Vetch (Vicia orobus).

After lunch at Culkein Bay, Ian took us up the hill to enormous Torridon Sandstone cliffs. Visibility was excellent and we had a magnificent panorama from the Sutherland Hills across Eddrachillis Bay, Ben Klebrek in the distance and nearby the mountains of Inverpolly Forest, while An Teallach and the Torridon Hills were visible in the far distance - some 90 miles in all.

Returning by Loch Cul Fraioch, Ian found Quillwort (Isoetes lacustris) and Stonewort (Chara sp.) in the peaty water.

CONNIE STEWART

Achmelvich Bay and the Stoer Peninsula

The day's excursion began well with a very pleasant scenic drive along the hilly narrow twisting B869 coastal road which runs between near Lochinver to near Kylesku. The little irregularly-shaped lochans situated round almost every bend of the road and separated from their neighbours by low-lying hilly outcrops of Lewisian gneiss rock, greatly added to the area's charm, picturesque nature and tranquillity. One could not anticipate the view around the next bend and so the journey gave one a lovely relaxed feeling all the way with plenty to keep one fascinated. Our first walk would be in the northern part of Achmelvich Bay, past Altanabraham, and the approach to it.

Parking the cars beside a very elongated, indented lochan, Loch an Ordain, we then walked down the road where it passed through what had been a dyke (igneous intrusion into rock fissure). It was like walking through a curving downward sloping ravine with a small sparkling burn flowing down the side of the road.

At its side Herb Robert (Geranium robertianum) and Golden Male Fern (Dryopteris affinis) were found growing. At length, a dramatic gorge suddenly opened up on the seaward side of the road, just on the side of a narrow level piece of rough vegetation. Its entrance seemed to have an air of mystery about it, as it revealed little beyond what we saw. Here too the burn we had been walking beside joined one from a lochan very near the landward side of the road. Immediately after that it then went under the road to flow gently and quietly through the vegetation patch referred to earlier in its direct passage to the gorge entrance.

A little time was spent above the burn quite near the end of the lochan (Loch na Creige Leithe) looking at a clump of Pyramidal Bugle (Ajuga pyramidalis) growing on the slope. The lochan as indicated in its name was overlooked by a crag. Like all lochans the contrast between the brilliant blue of the water and the hues of the surrounding slopes was most pleasing to the eye. There seemed to have been some attempt to control the water outlet from the lochan. It was most satisfying to leave the lochan having seen the Pyramidal Bugle as our local guide had said it was a plant to look out for.

Once everyone had seen the Bugle, the party moved

a little way into the gorge and now the walk became something of an adventure - a mild equivalent of those outback adventure holidays - as we jumped from stone to stone across the burn we had seen earlier. At this point the sides of the gorge towered high around us - it was wild indeed. Above us the burn cascaded over the frost waterfalls of the gorge. Beyond the water seemed to emerge over its rocky ledge from empty air, framed by the gorge sides at its beginning. Below us the burn continued to tumble on its way downwards over more waterfalls. The burn was so full at this spot that it was flowing underneath the fence to encroach upon the slope on the other side.

At the bottom the remains of a Norse mill was visible with the hillside forming a backdrop, marking the end of the ravine. Carefully the group descended the narrow path beside the burn, which at one point vanished underneath grass and stones.

Recrossing the burn not far from the mill presented a further challenge to us, but by taking things slowly, balancing carefully on the rocks and holding onto helping hands as further up everybody got across. A narrow lade led from the burn in a straight line towards the Norse mill. At the wall of the mill, the lade went deep in below the wall. The structure was circular in shape. Only the walls were left standing, the roof having gone completely. Inside, the deep water channel was visible against one of the walls. Looking along its length the exit below the mill wall was clearly visible. The floor of the mill was completely overgrown with vegetation, upon which a couple of mill grinding stones rested. More mill grinding stones were visible on the nearby carpet of grass and angled over the lade between its emergence from the mill and entry to the river. They were all quite intact, with one of them showing distinct grooves radiating from the central hole.

Growing in the cracks of the rocky crags above the mill were various plants including Wood Bitter Vetch (Vicia orobus). So keen were we to see this plant that no time was wasted clambering up the greasy slopes to the rock faces and then finding an accessible way over or around the rocks to the exact spot where it was growing. Its pinkish-lilac flowers and their shape were so attractive to the eye. First one patch and then another showed itself as the slope was scanned. Every crag had to be examined and then it was back to the track.

By this time we had also seen Fragrant Orchid (Gymnadenia conopsea) and the caterpillar of the Northern Eggar Butterfly.

Suddenly the sea. There it was as we rounded a corner shortly after leaving the mill. It was a lovely blue colour, with the hills coming down to meet it. In between the land flattened out. Leftwards the burn flowed between the flat land and the hillside, turning first one way to flow in front of us and then bending sharply and directly towards the sea. Passing through a stone walled dyke, we entered the flat land. On one side the dyke stretched up the grassy slope toward the steep crags.

The land we were on now with the hill behind it and perched above the sea, had been cultivated in the past. Indeed traces of its use were visible on the surface of the ground. The dyke we had passed through had been built to keep livestock out of the cultivated area. A thorough examination of the ground for plants followed, with Creeping Willow (Salix repens), hybrid Willow and Crowberry (Empetrum nigrum) being spotted.

Curious to trace the course of the burn from where I had last seen it I moved back across the area until I came to a very impressive chasm at the bottom of which was the burn, tumbling over a series of waterfalls. It was so deep that I looked over the edge very gingerly. It felt quite exhilarating looking into the depths with just a slight apprehension at not getting too near the edge.

Reluctantly I left this spot to rejoin the others but on the way there spotted a small elongated beach all on its own. The sand was of a pure white colour with the water lapping in having a greenish tinge to it. Hemmed in on one side by a sharp drop from the land I was on and on the other side by a high rocky promontory there seemed no obvious way into it. However two other people had seen it and watching where they left I moved forwards. Levering and sliding myself down and feeling carefully for footholds I soon got down the rocky ledges to reach the bottom. Crossing the beach and scaling the narrow promontory I found myself on a shingly beach.

Immediately in front of me beyond the stones was the burn falling over waterfalls from a most remarkable height straight onto the shoreline. From there it then meandered over the stony beach until it reached open water. Yet another enchanting location. Scrambling out of this area I came back to the land above, passing a small hillock on the way in the area of former cultivated land, near its edge.

Other plants seen at the bottom end of this walk were Eared Sallow (Salix aurita), Fairy Flax (Linum catharticum), Tufted Vetch (Vicia cracca), Butterwort (Pinguicula vulgaris) and Sundew (Drosea rotundifolia). Bottle Sedge (Carex rostrata) was also seen. A Common Blue butterfly was observed.

Meeting up with some of the others we went back the way we had come.

The afternoon was spent further up the coastal road on the Stoer Peninsula, a fairly low-lying area in contrast to what we had travelled through; but still plenty of lochans around. It is an agriculture area.

A most pleasant time was spent looking out across the Bay of Culkein and the waters beyond, towards a panoramic view of the peaks of the North West tip of Sutherland - Beinn Spionnaidh, Cranstackie, Fionaven, Arkle, Ben Stack. The view also embraced peaks in Assynt - Quinag, Ben More Assynt, Conival, Breabag. They all stood out so clearly with Arkle and Fionaven looking whiter-grey on top compared to their neighbours. One could not have wished for a better

viewpoint whilst having our lunch, sitting on the fairly gentle grassy slope which bordered the beach of the Bay of Culkein. From where we were sitting the land behind us sloped gently up over a good distance towards high precipitous cliffs at the end of the Stoer Peninsula.

Moving off through part of Culkein - a settlement of scattered houses - and up the sloping land, the group was eventually rewarded with remarkable views of the Assynt peaks. Once again the view was so extensive, with all the principal peaks - Canisp, Suilven, Cul Mor, Cul Beag, Stac Pollaidh, Ben Mor Coigach, An Teallach - standing out, isolated from each other, above the flatter landscape in the foreground. This was really one of the best parts of the day.

Now to the right could be seen cliffs with beaches below but we went near to the cliff top in the other direction, still heading upwards with only the cliff edge visible on our right. One burn was crossed after negotiating boggy patches. This was to me rather a delightful feature of the landscape because of its trickling sound and small but deep pools with miniature cascades. I could see it going down towards the cliff edge. It was possible to follow it down a bit but I imagine it must have made a sheer drop over the edge. It was quite near here that we arrived at the edge of the cliffs. They were so high and awesome that it was impossible to see the bottom. Not a place for the faint-hearted. There was a colony of Fulmars perched on ledges on the cliff face. One was feeding a chick. Fascinating to watch but the immense depths below encouraged one to watch from a position where one didn't feel uneasy.

Following the cliff edge which remained daunting, a point was reached where a choice had to be made whether to head towards higher ground above the Point of Stoer or go downwards towards the lochan (Loch Cul Fraioch) now appearing below us. The latter was chosen. There were final fine views of the Assynt peaks. Situated in the vastness of the surrounding flattish moorland flanked by higher ground, the shoreland of the lochan was a habitat for plants unique to a watery situation. In the shallow water next to the shore were found growing Shoreweed (*Littorella uniflora*), Quillwort (*Isoetes lacustris*) and Spiked Rush (*Eleocharis* sp).



Suilven

Continuing down the track we had stumbled upon and which had touched the lochan, the party went on its way back towards Culkein. Gradually the track veered away from the lochan and then we were back at our starting point in the settlement so completing a circular walk.

Other plants seen on the Stoer Peninsula were Heath Rush (*Juncus squarrosus*) and Devilsbit Scabious (*Succisa pratensis*). The magnificent views had made the walk very memorable and so we left Culkein to the sheep, herded onto the grass where we had had our lunch.

RODERICK CLARK

Canisp

Tuesday was an ideal day for a hill walk, cloudless blue sky, warm and sunny with a beautiful view of Quinag from the house. M.A., J.G., S.S. and J.W. left to climb Canisp. The river was high after all the rain on Monday and a lot of time was spent looking for a crossing which would leave our boots dry.

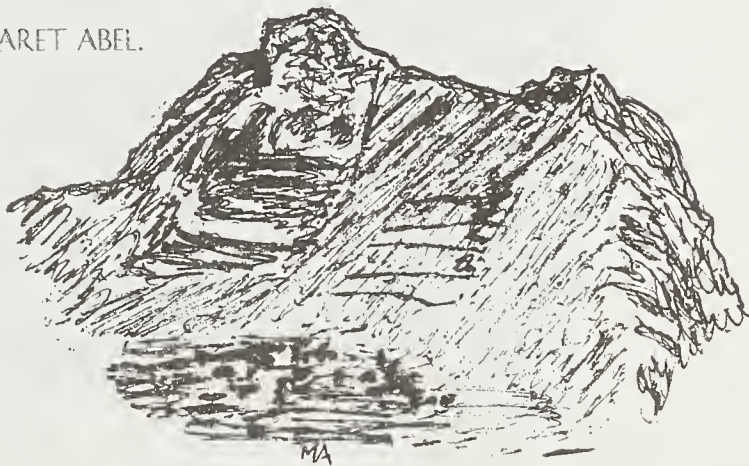
Canisp (846m) is a fairly barren hill without a great deal of interesting plant life. We found Tormentil, Golden rod, Bearberry, Crowberry, one stunted and bedraggled Dwarf Cornel, Common Daisy, Thrift, Heath Bedstraw and Dwarf Prostrate Juniper. The bird life seemed to be absent.

Canisp shows the hills as they were in the past, not busy and no beaten track to the top. We did meet a few groups of people. The chief glory of this hill is the view from the summit. On the last bit of ascent there were really lovely sightings of Cul Mor and Stac Pollaidh, then on rounding the shoulder beneath the top, suddenly we had an amazing view of Suilven which just seemed to pop up and shout "Here I am; look at me".

On the summit there are two large cairns with shelters and stone seats inside; from these we had a panoramic view of Foinaven, Ben Arkle, Ben Stack to Ben Hope and Ben Loyal. Turning round we saw Skye, Stoer and Torridon.

We had an uneventful journey down; in fact it was easier than the ascent because we found a better way across the river.

MARGARET ABEL



Quinag

WEDNESDAY

Durness

The most memorable day of our visit to Inchnadamph, for me, was the Wednesday when we went in search of the Scottish Primrose (Primula scotica).

We arrived at Balnakeil, west of Durness, in glorious sunshine and walked along the cliffs, at the edge of the golf course, finding interesting plants such as Twayblade (Listera ovata), Fragrant Orchids (Gymnadenia conopsea), Grass of Parnassus (Parnassia palustris) and Field Gentians (Gentianella campestris) in bud, as well as a large clump of Kidney Vetch (Anthyllis vulneraria), Lesser Clubmoss (Selaginella selaginoides), some Wild Carrot (Daucus carota) and Crested Hair-grass (Koeleria macrantha). There was, however, no sign of Primula scotica until, approximately half a mile further on we came to a limestone outcrop with, nearby, one minute specimen in full flower. Then we were delighted to find dozens at various stages to admire and examine.

Most of us continued along the cliff-edge path until lunch-time, passing Yellow Mountain Saxifrage (Saxifraga aizoides), Yellow Mountain Pansies (Viola lutea), Meadowsweet (Filipendula ulmaria) and Mouse-ear Hawkweed (Pilosella officinarum). Some people set off inland, towards a lochan, hoping to find Dark Red Helleborine (Epipactis atrorubens).

At its edge were Water Horsetail (Equisetum fluviatile) and a kind of Stonewort (Chara). A rocky outcrop at the edge of the lochan and adjacent wet area produced Goldenrod (Solidago virgaurea), Mountain Avens (Dryas octopetala) in fruit, Marsh Lousewort (Pedicularis palustris), Stone Bramble (Rubus saxatilis), Heath Spotted Orchid (Dactylorhiza maculata) and Black Bog-rush (Schoenus nigricans). However no Helleborine!

In the afternoon, we explored the other side of the bay which consisted of metamorphic rock. The habitat changed as we went north. First of all, grassy knolls formed from deposits of moraine, followed by a large stretch of sand dunes with Marram (Ammophila arenaria), which was dominated by particularly vivid Buttercups (Ranunculus sp.) and Daisies (Bellis perennis), then a boggy area with Tormentil (Potentilla erecta), Marsh Arrow-grass (Triglochin palustris) and various sedges (Carex spp.). The experts tried to search for a rare sedge but gave up when harassed by angry Lapwings. Some of us climbed to Faraid Head at the top of the promontory where we had excellent views towards Cape Wrath. Near the top were projecting rocks with Spring Squill (Scilla verna), Scots Lovage (Ligusticum scoticum), Buckshorn Plantain (Plantago coronopus), Roseroot (Sedum rosea), Sea Campion (Silene uniflora), Sea Scentless Mayweed (Matricaria maritima), Thrift (Armeria maritima), Sea Plantain (Plantago maritima), Sea Arrow-grass (Triglochin maritima) and Moss Campion (Silene acaulis).

There was also a good variety of birds. At the start of the walk we were entertained by Black Guillemots paddling in, and skimming low over the bay, and by the Fulmars gliding around just above our heads. Further out to sea there was a raft of male Eider. We also saw Guillemots being chased by Shags and Terns nesting on the rocky area in the lochan, protesting noisily at being disturbed. There were also Redshank and, near the north edge of the promontory, Puffins and three Hooded Crows.

The geology was of great interest also. The forty foot high rock-face of gneiss, with intrusions of later igneous rocks, at the roadside near Loch Laxford was very impressive. On the way home, the fault at the far end of Loch Glencoul, known as the Moine Thrust was pointed out to us.

This was indeed a memorable day for the vivid colours of the sea and sand, the strangely-shaped mountains, the diversity of plants and birds, and, above all the wonderful Primula scotica.

NANCY IRELAND

CRAG-HOPPING

Artemisia norvegica (or Norwegian wormwood to give it its English name) is one of our rarest mountain flowers. A member of the daisy family, it is little more than an inch tall, with aromatic, silky, fingered grey-green leaves and a solitary nodding disc of pale yellow florets backed by striped green and brown bracts. It was officially recorded in Britain as recently as 1952, two years after it was first discovered on a well-known "Corbett" a few miles from Inchnadamph and is known only from that and two other sites.

It had been a great thrill for me a few years ago, to stumble upon one of these other sites en route for a remote Munro, and the holiday at Inchnadamph seemed a good opportunity to try to find it at its original site. Three of us set off one sunny day when the main party was bound for Durness. We crossed the moor and made good time to the top of the hill. As I looked out over the huge stony waste of the summit plateau I felt we were in a "needle in a haystack" situation. However, we had been told the general direction in which we should search and I knew from seeing it before that the plant grew in bare, stony places so that we did have some clues. All the same, it seemed a daunting task. We spread out and started to quarter the hilltop. I was the lucky one who found the first plant, quite near the top of the hill, on its own and amongst flat boulders and gravel. Having achieved our objective, we debated whether to look farther and decided we should give it a try. Lower down the slope were more plants and we started to count them, first singly and then in tens, then hundreds. There were so many it was difficult not to stand on them! We gave up the counting and just admired.... We admired the artemisia; we admired the other alpine which shared the plateau with it: Alpine Lady's Mantle (Alchemilla alpina), Mountain Everlasting (Antennaria dioica),

Dwarf Cudweed (Gnaphalium supinum) , Mossy Cyphel (Minuartia sedoides), Goldenrod (Solidago virgaurea) , Three-leaved Rush (Juncus trifidus), Pill Sedge (Carex pilulifera), Dwarf Willow (Salix herbacea) and a beautiful Alpine Hawkbit which we could not identify ; we looked down on the blue water of a hundred lochans with dramatic peaks rising above them ; we looked out to the blue waters of the Minch . It was with reluctance that we left the heights, for it had been a glorious day, a day whose memory would warm us in winter's chill .

MARY CLARKSON

Handa Visit

From Tarbet on the North-West coast of Scotland a small boat left for Handa Island now an SWT Reserve. A breeding place for many thousands of Guillemots and Razorbills, also Fulmar and Kittiwake, Puffin and Shag though where we landed on a sandy bay on the South side this was not very obvious.

We were met by the Warden and he gave a short talk on the geology and natural history before we set off across the island. It was a very hot day and uphill all the way following a board walk to the 140m. high sandstone cliffs on the North. From there the seacliffs were packed with nesting birds - flying and feeding, preening and calling.

Offshore was the Great Stack and some miles away across calm water many small islands lay in a heat haze. As we had walked across Handa there had been both Great Skuas and Arctic Skuas standing guarding young on the moor. A small lochan was visited by Red-throated Divers which friends watched while I continued round the island and back to the starting bay in good time for a boat back to the mainland.

M. MOLLY C. WOOLGAR

THURSDAY

Loch Glencoul

On Thursday three of us sailed along Loch Glencoul on M.V. Statesman. Two Grey Seals were by the old ferry pier, Kylesku, where we embarked. We passed close to many small, rocky islands on which were many Common Seals and pups. We were told by the very knowledgeable boatman that the commons bred in these inland waters because their pups were able to swim from birth. The grey pups were unable to swim until a week or two old and so their breeding grounds were in more remote locations out to sea. Arctic Terns, Oystercatchers and Common Gulls were seen feeding their young on these islands. Greylag Geese were swimming with goslings.

We cruised to within sight of the Eas-Coul-Aulin Falls. These are the highest in Britain but the boatman was full of apology for the fact that the flow was much less than usual for lack of water. Other birds seen on this enjoyable jaunt were Heron, Hooded Crow, Wood Pigeon, Goosander and Eider.

ERIC AND EILEEN PERRY.

Summer Isles

On Thursday some of us set off for Achiltibuie to go on the Summer Isles Cruise. We stopped at the Hydroponicum, claimed to be the "Garden of the future". They say the word means "the water does the work" and that exotic fruits, including bananas, flourish in solar heated, insulated growing houses - even in the Scottish climate! Although slightly tempted to join a guided tour (quite expensive), time did not permit, so we found a place to lunch near a burn. The day was now extremely hot and some of us found it a relief to cool our feet in the running water. Attempt to solidify melted chocolate biscuits were not quite so successful!

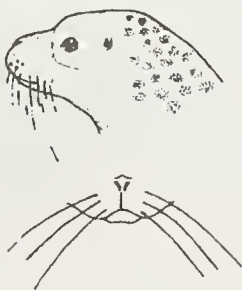
The cruise lasted about three and a half hours including time ashore on one of the islands.

There was a welcome cool breeze at sea, but a disappointing lack of birds promised in the leaflet. The boatman took us close in and paused at the islands, but the nesting cliffs were empty, except for 2 or 3 dejected looking Shags. However, we had a good view of Seals and were pleased to see a few Black Guillemots flying around.

On the way back we were intrigued by a spectacle none of us had seen before: the boat was surrounded by scores, if not hundreds of jellyfish floating near the surface. Most were pale lavender and of all sizes; some were orange coloured, with very long streamers. They looked luminous, at times almost fluorescent, and were really beautiful, quite unlike the stranded lumps which terrified me as a child walking barefoot on the sands. At a later NATS outing David Jones kindly gave us an explanation of what we had seen. The jellyfish, named Aurelia aurita, are swept up on currents from the Atlantic to the North of Scotland, not migrating by their own instincts.

While disembarking I had a grand view of a Gannet plunge diving into the water not a hundred yards away. So despite the scarcity of birds, it was an enjoyable and interesting day and we were grateful to Connie Stewart for driving us.

Common Seal



MARGARET LITTLE



Glen Kirkaig again

On another beautiful, sunny day 13 of us drove to Lochinver and from there southwards along a very picturesque single track road to Inverkirkaig.

The path from the car park was attractively bordered with the yellow Hawkweed (Crepis capillaris).

Amongst the Hawkweed, Wild Carrot (Daucus carota) was obvious with its collar of forked green bracts under the umbels. Bush Vetch (Vicia sepium), Tufted Vetch (Vicia cracca), St. John's Wort (Hypericum perforatum) and Broad-leaved Willowherb (Epilobium montanum) added to the colourful scene.

We then walked through Birch and Alder with ground cover of Bracken. Amongst the Bracken there were the more interesting Mountain Fern (Oreopteris limbosperma) and the Hard Fern (Blechnum spicant). Pignut (Conopodium majus) and a Primrose (Primula vulgaris), still in flower, were observed. Breaks in the trees revealed impressive views of the River Kirkaig and the hills beyond.

We walked out of the trees to open moorland where the purple of the Bell Heather (Erica cinerea) was particularly striking in the bright sunlight while the Ling (Calluna vulgaris), not yet in flower, was festooned with the spittle of the larval stage of the Frog Hopper (Philaenus spumarius). Dark Green Fritillary, Common Blue and Small Heath butterflies fluttered over the Bog Myrtle (Myrica gale) and Tormentil (Potentilla erecta).

At a wet flush by the pathside, the two Sundews, Long-leaved (Drosera longitolia) and Common (Drosera rotundifolia) were flowering beautifully side by side.

A short diversion down a steep rocky path, led us to a magnificent waterfall, where the water cascaded thunderously down into a deep pool. Near here the Golden-ringed Dragonfly (Cordulegaster boltonii) and the Four-spotted Chaser (Libellula quadrimaculata) were observed resting on the vegetation.

Most of the party continued on to the lochan where we had an exquisite view of the Suilven hills. After some had cooled their feet in the lochan and we had lunch we retraced our steps back to the cars. Nearly all made a bee-line for the tearoom to replenish lost fluids.

ENA GILLESPIE

FRIDAY

Benmore Assynt and Conival

The programme for Friday was largely unscripted and members took off in their various ways to suit their tastes. A substantial body departed for a bird-watching day on Handa; some went to savour the sail on Loch Glencoul and view the famous Stac; and two of the more energetic types trekked to Sandwood Bay for the sake of the wide sands and the wildlife. On the way they found both Sundews (Drosera rotundifolia and longitolia) in flower

and some interesting insects. Dragonflies, moths and butterflies enhanced the hot sticky day. But oh the clegs!



A trio of souls, united in the feeling that a more energetic day was due and would be a more fitting conclusion to such a glorious week, got together and thought they might walk up the valley towards Conival (987m) and Ben more Assynt (998m), the highest mountains in the area. More than that they were unwilling to promise themselves, for the day was hot with the wind having backed from its westerly point earlier in the week to a warmer southerly. Perhaps it was not ideal for a taxing ascent of high mountains.

The track up Gleann Dubh soon became a path, following but keeping above the River Tralagill. Looking down, the vegetation along the level ground by the river was lush, but as far as that day was concerned, unexplored. Higher up as the ground steepened the path became less distinct and route-finding among the coarse grass and stony outcrops was more difficult. Without a doubt, there were better ways up that slope, but as the gradient fell away at around 750m, there was still enough steam in the six old legs for the conviction to grow that it was unthinkable not to continue on to the tops. It was very very hot, but by now that had ceased to be a deterrent.

The further way was up a shoulder covered in large boulders of quartzite, uncomfortable to walk on, and cruel to any flesh with which it came into contact (one graze sustained here lasted many months). But soon, and to some extent spurred on by younger competition that had appeared on the scene, the top of Conival was reached, and we were able to enjoy the views all around - quite magnificent; to the east where Loch Shin stretched way into the distance and to the west

where the mountains of Assynt, Coigach and Foinaven showed clearly. Re-invigorated by the achievement of this summit, the way onwards to the top of Ben More Assynt and its southern summit seemed easy. On the way Cyphel (*Minuartia sedoides*) was growing well in the quartzite scree.

The books recommend an alternative way down from here via the southern ridge and a descent towards Dubh Loch Mor, but the *ad hoc* nature of the day revealed itself in the fact that this was only vaguely realised and the party took the less heroic route of retracing their footsteps down to Inchnadamph. The way through the boulder field was at least as awkward as the way up with many a minor slip on the scree, but once the col was reached the way was easy and home base was reached in double quick time. The difficulties of the day were soon forgotten, and it was satisfying to sit back and say to strapping young men wondering if they could climb Ben More Assynt "Aw, there's nuthin to it!"

However, most of the others were already back and on their way to eat at Kylesku. There was further haste as the trio readied themselves and drove north to join the others in a most enjoyable and well-deserved seafood meal.

ANDREW GILCHRIST

SATURDAY

The Retreat from Inchnadamph

On Saturday the 12th July the members who had gathered for the highly successful week at Inchnadamph dispersed - or so we thought. Eileen and I decided that on the way home we would take another look at the Assynt Visitor Centre at Lochinver. There we met Mary Clarkson, Sandra Stewart and Roddy who had the same idea. Our next stop was the Bookshop at Inverkirkaig for some purchases and a cup of coffee. To our surprise Mary, Sandra and Roddy were also there. We had lunch at North Kessock where we had often stopped in the past hoping to see dolphins but never with any luck. This day was different. Fins were seen and then the dolphins leaping right out of the water. What a fitting climax to a memorable week and what a pity no other members were here to share the sight. However, later in the day we took a break at the Falls of Bruar near Blair Atholl. Guess who were there! No prizes for this - M, S and R!

ERIC AND EILEEN PERRY.

STILL INCHNADAMPH

The Botanist's View

MONDAY

The weather was less than welcoming when 29 members of the Natural History Society and one dog (Elizabeth's Akela) arrived at the Assynt Field Centre for a week at Inchnadamph. It brought back memories of a very wet camping holiday in the area, and rain was still falling the following morning when we set out on our first excursion up the Trailigill Burn.

It was just drizzle at first and the party set off in high spirits. The terrain is extremely interesting, consisting as it does of limestone overlaid with peat, and the river itself disappears into underground limestone caves for a distance of about a quarter mile at one point. At least it usually does, but not today. We had lunch by the river sink, and watched fascinated as the burn swirled past the swallow-hole and rushed on over what is usually a dry river bed. Elizabeth insisted we move well back from the edge in case Akela be tempted to take a swim.

Given the combination of peat and limestone, there is an interesting mix of plants in the area. In the peat bog we were finding Common Butterwort (*Pinguicula vulgaris*), Bog Asphodel (*Narthecium ossifragum*), and both Long-leaved and Round-leaved Sundew (*Drosera longifolia* and *D. rotundifolia*) among assorted sedges and rushes; while on the rock outcrops were the lime-lovers - Holly Fern (*Polystichum lonchitis*), Brittle Bladder Fern (*Cystopteris fragilis*), Yellow Mountain Saxifrage (*Saxifraga aizoides*) and the Mountain Avens (*Dryas octopetala*) for which the area is famous.

After lunch most people turned back, but a number decided to continue to the limestone cliffs above Loch Mhaotochcoire (also known as Gillaroo Loch from the type of trout found there). Disastrously we then divided into two, one group later turning back as the weather deteriorated, while the other eventually made it to the limestone, but had little time or inclination to linger in the mist and rain.

It was not till after supper that we realised one of our party was missing, each group having assumed she was with the other, and we were just about to call the Mountain Rescue when she appeared. Apart from being wet, cold and hungry (with emergency rations

untouched) our wanderer was none the worse for her adventure. After profuse apologies all round, her main concern seemed to be that her late arrival had resulted in one of the party missing out on a trout supper! Though all ended well we had been given, on day one a sharp reminder of how dangerous mountain

terrain can be in poor conditions.

Fortunately we had an interesting end to the evening in the form of a talk from Ian Evans, who with his wife Pat, the local BSBI Recorder, has been botanising this part of Scotland, and who kindly devoted the next day to showing us some of the sights.

TUESDAY

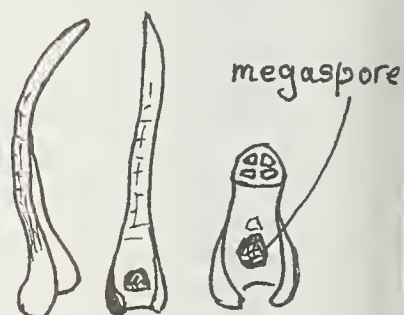
The day dawned with sunshine, which continued for the rest of our stay and really "made" the holiday. In the morning we went down the Alltan na Bradhan gorge to the sea. We stopped by the roadside to look at Pyramidal Bugle (*Ajuga pyramidalis*), now past its best, and at Wood Bitter Vetch (*Vicia orobus*), in full flower on both road and gorge-side. Both plants are rare, being more or less confined to the North-west. Part way down the little gorge is an old mill, and at the sea were cliffs with Thrift (*Armeria maritima*), Scots Lovage (*Ligusticum scoticum*), and a clump of Distant Sedge (*Carex distans*) which had not previously been recorded in that locality.

Lunch was taken on the dunes at Culkein to the west of Stoer Point, and was followed by a clitt-top walk.

Our return route took us past Loch Cul Fraioch, where Ian Evans paused to fish out some specimens of Quillwort (*Isoetes lacustris*). This is an extraordinary plant, related to the Clubmosses. It grows under water and consists of a rosette of tapering hollow leaves which bear spore capsules at their bases. Quillworts are believed to be the nearest living relatives of the Lepidodendrons, the giant Clubmosses, some a hundred feet high, which, with equally massive Horsetails, dominated the Carboniferous forests some three hundred million years ago. We tend to think of evolution as producing greater complexity, but in the case of the Quillworts it seems to have led to a reduction in both complexity and size.



Lepidodendron - 90 ft Tree Clubmoss
(Found in Carboniferous Forests
c. 300 million years ago)



Isoetes lacustris
Common Quillwort
c. 6 ins : underwater plant

(believed to be the closest living
relative of Lepidodendron)

WEDNESDAY

Day 3 was spent at Durness and Faraid Head. The golf course at Durness is the most amazing example of limestone grassland in the far North. Among the many lime-loving plants - Wild Carrot (*Daucus carota*), Kidney Vetch (*Anthyllis vulneraria*), Mountain avens (*Dryas octopetala*), Crested Hairgrass (*Koeleria macrantha*), Lesser Meadow Rue (*Thalictrum minor*), to name but a few - were 5 species of orchid, some growing in great profusion, and one of the treasures of the area the Scottish Primrose (*Primula scotica*). This beautiful little purple primrose is clearly related to the pink Birdseye Primrose (*Primula farinosa*) which we saw in Upper Teesdale last year. However the latter is a southern alpine species, while *Primula scotica* is distinctly northern, and is in fact much closer to *Primula scandinavica* found in Norway and parts of Sweden.

The orchid list includes - Frog (*Coeloglossum viride*), Heath Spotted (*Dactylorhiza maculata*), Northern Marsh (*Dactylorhiza purpurella*), Fragrant (*Gymnadenia conopsea*) and Twayblade (*Listera ovata*). En route to the golf course we had a splendid view of Tysties (Black Guillemots) with their smart white wing flash, and striking scarlet feet, on a small cliff.

Many of the plants were also to be found on Faraid Head, though not in quite such abundance. Cliffs at the northern tip had an interesting mix of Roseroot (*Sedum rosea*), Scots Lovage (*Ligusticum scoticum*), Moss Campion (*Silene acaulis*), Sea Campion (*Silene uniflora*), and the remains of Spring Squill (*Scilla verna*). Here were seen Puffins and a family of young Oystercatchers, their parents frantic at our presence.

THURSDAY

A small party headed up Allt na Claic Moire, a tributary of the Traligill Burn in search of rock outcrops where "foreign" plants were said to be thriving. Eventually we found the appropriate crag, and Fairy Foxglove (*Erinus alpinus*), Fairy's Thimble (*Campanula cochlearifolia*), Horned Rampion (*Phyteuma scheuchzeri*) and the Alpine Catchfly (*Silene alpestris*) all apparently thriving on the limestone, though we did not find the Spring Gentian (*Gentiana verna*). The Evanses had recently discovered this little bit of alpine garden, but have no idea who planted it.

On the way back we crossed over the dry bed of the Traligill, now safely underground again, and were lucky enough to see a young Cuckoo fly into the trees where it sat screaming for food. And in a hedgerow we encountered an old bedstead, a sight to warm Elizabeth's heart as she had been lamenting the demise of this once ubiquitous gap-filler.

JACKIE MUSCOTT

...and the Geologist

If playing Word Associations the word Inchnadamph would surely be answered by "Peach and Horne" or Gneiss and Torridonian Sandstone" - if your interest is Geology.

The geology of North-West Scotland caused a great deal of controversy during the 19th century. Professors Nicol and Lapworth put forward a theory that a fault or thrust had placed older schists over younger rocks but Sir Roderick Murchison was adamant that this was not the case and as he was President of the British Geological Survey he was able to overrule them. The argument continued until Archibald Geikie, who became President of the B.G.S. after Murchison, sent two independent geologists, Benjamin Peach and John Horne north to settle the matter. In 1884 they reported back that in their view Nicol and Lapworth were right. Their main report was published in 1907 and in 1912 a group of eminent geologists from around the world assembled at Inchnadamph Hotel to see the area for themselves. Fortunately the hotel register for that time has been preserved. It has been framed and hangs in the hotel vestibule where it makes fascinating reading. [Peach's address is given as 72 Grange Loan, Edinburgh.] Recently a small memorial to Peach and Horne was erected on a hillock above the church.

At Inchnadamph we were on an area of limestone rich in vegetation but over vast areas of the N.W. the Lewisian Gneiss is exposed. This shows as bare rock with little vegetation. The ancient Pre-Cambrian Gneiss was being formed, buried, melted and reformed etc., etc., over a period three times longer than that from the Cambrian to the present day. As millions of years passed the landscape was buried under red sands and pebbles - the Torridonian sandstone. What we see today is only the tiny fraction of gneiss which is left. Onto the eroded surface quartzite was laid down on a new sea floor. We see this quartzite capping hills and looking like a powdering of snow. As conditions changed and became suitable for organic life, worms began to make vertical burrows in the sand (the Pipe Rock). New kinds of worms appeared leaving horizontal traces (the Fuccoid Beds). The Serpulite Grit represents a shallowing of the sea with the deposition of coarser sediments. Finally clear shallow seas led to the limestone deposits. This then was the order of deposition but thrusts have in places brought older rock over younger. The best known thrust, the Moine Thrust, brought schist from the East up over the Durness limestone.

Although Geology does not rate highly with most of the Nats. a few did go to Knockan Cliff. Even with the aid of the Trail booklet it was not always easy to follow the sequence of strata but it was well worth the effort, especially when, at the top, you came to a clear exposure of the Moine Thrust itself. Because the Moine schists projected from the crags the thrust plane was clear, the under surface making a sharp contact with the underlying rock.

The Moine is by no means the only thrust in this area of complicated geology and we tried from a lay-by by the side of Loch Assynt and just west of Ardvreck Castle to look back and pick out the Sole Thrust and the Glencoul Thrust. This was difficult but on the day we went north to Durness it was easy to pick out another part of the Glencoul Thrust from Unapool.

The exquisite floor of the new Historic Scotland Headquarters building at Longmore House in Edinburgh is made of Ledmore marble. We had a look at the entrance of the quarry which is marked by huge blocks of the marble. Further east we also had a brief look at some of the rocks of the Loch Borrallan Complex. The intrusion of this igneous rock (mostly syenites) caused the metamorphosis of the limestone into marble.

Because you are so conscious of being in an area of ancient rocks it comes as something of a surprise that there are also many 'modern' features to be seen. We had beautifully clear days and suddenly we would realise that we were seeing a number of glacial features from U-shaped valleys and corries in the mountains to glacial deposits on low ground and small meandering streams in broad glacier-cut valleys.

This district is unusual in that a great deal can be seen without any effort. Much can be seen with binoculars and in road cuttings. The road from Inchnadamph to Durness is a good example of this. At Skiag Bridge, Pipe Rock is clearly seen. Then you progress from the dark gneiss to the more interesting lighter coloured gneiss north of Loch Laxford and finally travel down the glacial cut valley by the Kyle of Durness.

BETTY MITCHELHILL.



WINTER HELIOTROPE
(*Petasites fragrans*)

ACKNOWLEDGEMENTS

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PURPLE MOOR GRASS
(*Molinia caerulea*)

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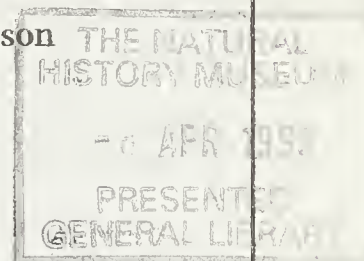
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EDITORIAL



1998 was another very successful year for the Society in spite of the weather! We had the feeling it was a wet year although few outings were spoiled by rain; but it is interesting to read the facts from Munro's recordings (Page 6): 244 days of rain! There were 29 Saturday outings and 10 Wednesdays, all very well attended. We must thank the Excursion Committee for all the hard work in putting together such an interesting and varied programme.

The Arran week proved very popular and enjoyable and the reports evoke happy memories. Our thanks go to Ian McCallum for organising and leading the interesting visits; we greatly benefited from his knowledge of the island.

Once again our thanks are due to Elizabeth for hosting the Wine and Cheese party at Chamberlain Road which always makes a lovely finish to the year. It is the one occasion when people are not dressed in boots and waterproofs and it takes time to recognise old friends when dressed in indoor plumage instead of woolly hats and cagoules! Akela can always be relied upon to Hoover up after us.

OBITUARIES

Phyllis Hamilton

Phyllis Hamilton, who regularly attended Society meetings for many years, died in June, 1998. She had travelled extensively both at home and abroad. Her wide knowledge of Scottish culture and history made her an interesting and lively companion on any excursion, but latterly ill health curtailed her activities.

Rosemary Harper

The Society lost another longstanding colleague during the year when Rosemary Harper died after several years of poor health. She was an active member of the Society whilst working in Edinburgh at the Institute for Marine Environmental Research, and after a transfer to Banchory and retirement in the Lake District she continued to keep in touch with a few members.

THE LIBRARY

The Water of Leith Conservation Trust have had to move out of their premises in Lanark Road whilst the promised upgrading, financed by the Millennium Fund, is being carried out. On Friday 27th March our Library was moved out of the building and taken to be stored in Elizabeth Farquharson's house. Plenty of help was available for which we librarians were very grateful, both being rather incapacitated at the time.

So far we have not been informed about when or whether we will return to the Water of Leith Conservation Trust's premises. The upgrading operation has been estimated to take a year from start (not necessarily from 27th March). Meanwhile we are very grateful to all the people who came to help with the removal, which was fast and efficient. We wish to thank also Elizabeth who organised the van for removal of books and bookcases and her grandson who helped transfer the books into her house through the window as well as the door!

It is hoped that the Society will buy some new books when the Library is ensconced once more in the Conservation Trust's premises, if that is possible, or in a new location if necessary as we do want to update our bank of information.

BOB AND JOYCE MARKS

THE WONDERFUL WORLD OF WAXCAPS

Unimproved grassland is a disappearing habitat all over northern Europe, largely because of agricultural intensification, and the last fifty years have seen the loss of whole communities of native plants together with the butterflies and insects dependent on them for food. With their waxy gills and brightly coloured caps in shades of red, orange, yellow, green and even pink, Meadow waxcaps, or *Hygrocybes*, are among the most conspicuous and attractive of our fungi. They are an indicator species for ancient unimproved grassland, and they, like their habitat, are in decline. The British Mycological Society is conducting a survey with the ultimate aim of producing an inventory of sites which are of national or international importance mycologically, so that these may be protected. The initial aim however, is to define the criteria which constitute an important site. Volunteer recorders were asked to select three sites and to visit each at several different times of year a week or ten days after substantial rainfall. Possible sites would include pastures, parkland, meadows, sand dunes, moors and lawns. *Hygrocybes* are not the only fungal indicators of unimproved grassland ; others of importance include Fairy clubs, *Clavaria*, *clavulinopsis*, Earth tongues, *Geoglossums*, and *Entolomas* (pink spored fungi with no English name) and these were to be recorded too.

A fungal survey poses a number of problems. Fruiting depends largely on rainfall and some seasons produce few or no fungi while in others there is a great abundance. Moreover , some species appear early while others are definitely late season so that a grassland site must be surveyed several times during the season as well as for several years. Then there is the difficulty of identification for the less expert. How can one estimate abundance when one cannot identify the fungus in the field ? And I heard of an excellent meadow which had been ploughed up when the recorder went back the second year !

It would never have occurred to me to put my name down as a recorder as I knew I could not identify most of the species to be surveyed. However, a "friend" volunteered me and I was part of the survey!

The first year I acted as assistant to an experienced recorder on her sites but in the second year I found I was sent off to choose my own and record as best I could. I enjoy hill-walking so two of my sites are in the Pentland Hills: the slope below the North Esk Reservoir near Carlops, and Loganlea Howe which one of the Rangers had recommended. The third site is the lawns of Hopetoun House, again in the knowledge that they had borne many *Hygrocybes* in the past.



Hygrocybe calyptraeformis - the "Ballet Dancer"

I could not have attempted the survey if it had not been for two things. Firstly , the BMS ran a *Hygrocybe* Workshop in the autumn of 1997 on which I was fortunate to get a place and where I learned how to go about identifying the main fungus genus concerned. That did not mean that I managed to identify every Waxcap which was collected , but at least I succeeded with a reasonable proportion. Secondly, I received help from a lot of my friends and I owe them a big debt of gratitude. It makes an enormous difference to have several pairs of eyes looking , especially with sites the size of Hopetoun (eight acres) and Loganlea (400 by 100metres) and particularly when some of these eyes are sharper than mine. The Pentland sites are forty minutes walk from the car and although I went alone on some occasions it was much more enjoyable to have company. It was also a great advantage to be told when the Hopetoun Waxcaps had started to fruit!

Although an interim report on records for 1996 was put out, it is likely that it will be some time before any final conclusions are drawn as the survey covers the whole of the UK, a great many sites and participants are involved , and as far as I know the survey is still ongoing. We were asked to record indicator species and their abundance and although it would not be appropriate for me to offer any interpretation, a summary of the numbers of species found at my sites and a few general comments may be of interest.

INDICATOR SPECIES

		Fairy		
	Waxcaps	Clubs	Other	Total
1997				
North Esk	10	3	2	15
Loganlea	16	4	2	22
Hopetoun	18	6	4	28

There were fewer fruitbodies in 1998 than 1997 but 2 additional species were found both at North Esk and at Loganlea. The figures for Loganlea and Hopetoun were well above the average contained in the interim report for 1996. Abundance had to be recorded in terms of numbers within a range. However, mere figures are totally inadequate to describe the amazing scene which met my eyes at Hopetoun on 11th November 1997 - thousands of *Hygrocybes* of every hue from end to end of the lawns.

Perhaps the greatest thrill however, was finding the beautiful pink *Hygrocybe calyptraeformis*, a rare species known as the Ballet Dancer , at all three sites.

MARY CLARKSON

BRITISH MYCOLOGICAL SOCIETY FORAYS

The British Mycological Society took its members to the Netherlands for the 1998 Overseas Foray. We stayed in Bergen, a small attractive town northwest of Amsterdam and Alkmaar, which is popular with tourists during the summer months. By mid September when we were there the place was quiet. The number on the Foray was exceedingly small, totalling 10, of whom 2 were Dutch, 2 Australian, 5 from England and myself from Scotland. Amongst this small group we had experts in different areas - Inkcaps, Cortinarius, Waxcaps, Mycenas and Puffballs. The Puffball expert has written an excellent book on the subject, but alas, in Dutch, so we cannot benefit until we have mastered the language.

The foray sites had been well chosen to give us a wide selection of soil types and land use and this involved travelling considerable distances on some days. The road network throughout the Netherlands is excellent and a cycle path is always provided alongside all main roads. At a more recent conference we heard how devastating this road system has been on the Badger population, causing a huge annual death rate and a rapidly declining total population.

On several days we were joined by a local fungus group and their local knowledge was a great asset. After the poor season most of us had been experiencing in the U.K., we were quite overwhelmed by the diversity we saw at all the sites. *Cortinarius* species, never easy to identify for most of us, were present in bewildering numbers. By the end of the week we had seen so many unfamiliar fungi that it was difficult to remember the details. One day was spent amongst the sand dunes on the island of Texel, and on the final day we visited Leiden and were shown round the Herbarium.

CORTINARIUS

CORTINARIUS IS A LARGE GENUS OF FUNGI AND MOST SPECIES ARE CLOSELY ASSOCIATED WITH TREES. WHEN YOUNG THEY POSSESS A COBWEBBY VEIL OR CORTINA, WHICH MAY DISAPPEAR ALTOGETHER OR REMAIN AS A FAINT RING-ZONE ON THE STIPE. THE GILLS ARE VARIABLE IN COLOUR WHEN YOUNG - PURPLE, ORANGE, RED, YELLOW - BUT IN MATURITY THEY ALL BECOME RUST-COLOURED DUE TO THE RIPENING SPORES. THE INDIVIDUAL SPECIES ARE VERY DIFFICULT TO IDENTIFY.



CORTINARIUS PHOLIDEUS

By contrast, the Autumn Foray in October which was based on Preston Montford Field Centre attracted a large number which necessitated using two laboratories. Although forays are often centred on field centres, they are not run primarily for teaching purposes. Nevertheless we were particularly fortunate in having Jan Westerholt from Denmark with us, whose book on *Lactarius* had just been published. He was a great communicator and a born teacher and we all made the most of it!

During the week we visited large estates and local woods with varying success. The most profitable sites turned out to be the old village churchyards! Reaching our destination each morning became quite a challenge as many road numbers had been changed in recent years following extensive road building around Shrewsbury. One shortcut led to a 5 mile detour!

Fungi were not as plentiful as we would have liked but with so many of us combing the ground, no fungus had a chance of escaping and much of interest was collected. Each evening we gathered round the display tables to see the special finds of the day.

We had had good weather throughout the week, and realised our luck when a week or two later Shrewsbury and the surrounding country had devastating floods.

ELIZABETH FARQUHARSON

LACTARIUS

LACTARIUS IS A GENUS OF FUNGI FOUND IN ASSOCIATION WITH TREES OR SHRUBS. THEY ARE OFTEN BEAUTIFULLY COLOURED BUT THEY ARE BRITTLE. WHEN DAMAGED, THEY EXUDE A JUICE WHICH MAY BE WATERY, WHITE, YELLOW OR ORANGE, AND WHICH MAY CHANGE COLOUR ON DRYING - FOR EXAMPLE, TO YELLOW, LILAC, RED, GREY OR GREEN.



LACTARIUS VELLERUS

(Very brief summary of main field characters from

"Identification of the Larger Fungi" by Roy Watling)

RAINFALL IN CORSTORPHINE

It will come as no surprise to members to learn that the rainfall recorded in Corstorphine during 1998 was the highest total at this site since recording started there in 1966. The total of 894mm. (35 ins) compares with the 1966-95 30-year average of 683mm. and the previous highest of 887mm in 1985. Perhaps more exceptional, however, is the fact that measurable rainfall (at least 0.05mm) occurred on 244 days as compared with the average of 183 days and the previous highest of 208 days.

The excesses in both quantity and frequency of rainfall were spread widely across the year, with no exceptionally wet months. This contrasts with 1997, when there had been an unusual combination of very wet and very dry months. This was compensated by deficits in February and March. February was the driest month of the year (and incidentally, quite exceptionally warm). April, May, June and July were all quite a bit wetter than average. April and June had almost twice as many rainy days as is usual.

Average rainfall in August was followed by a drier than average September. October was the year's wettest month. November was also wet before the year ended with a somewhat drier than average December.

Calendar month totals can be misleading: half of November's rain had fallen by the 3rd, and 60% of December's fell on the three days centred on the 25th, with the period between drier than normal in terms of total rainfall. However, in the period between early November and late December there was no let up in the frequency of occurrence of rain.

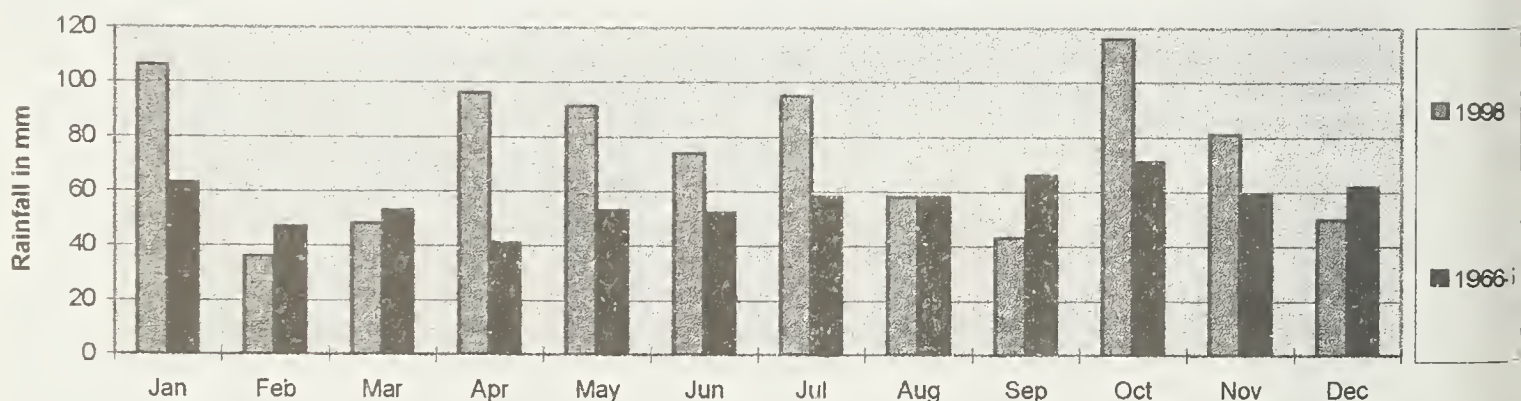
For those who dislike rain, the best period of the year ran from 13th to 25th September, with a run of dry days being interrupted only on the 17th. The next best was from 13th to 22nd February, broken only by a slight fall on the 19th.

Viewed against the recent upward trend (rainfall in 1981-95 was 15% higher than in 1966-80; see last year's Journal), and the fact that the previous highest total, for 1985, was only 7mm lower, the 1998 total is perhaps not so outstanding. However the 30 year run of data showed no upward trend in the number of days with rain. Accordingly the 1998 record of rain falling on 2 days out of every 3 as against the average occurrence of 1 day in every 2, and the fact that the former represented 17% higher frequency than the next highest is quite remarkable.

ACCORDING TO THE MET. OFFICE FIGURES, 1998 HAS BEEN THE 3RD WETTEST IN THE LAST 100 YEARS.

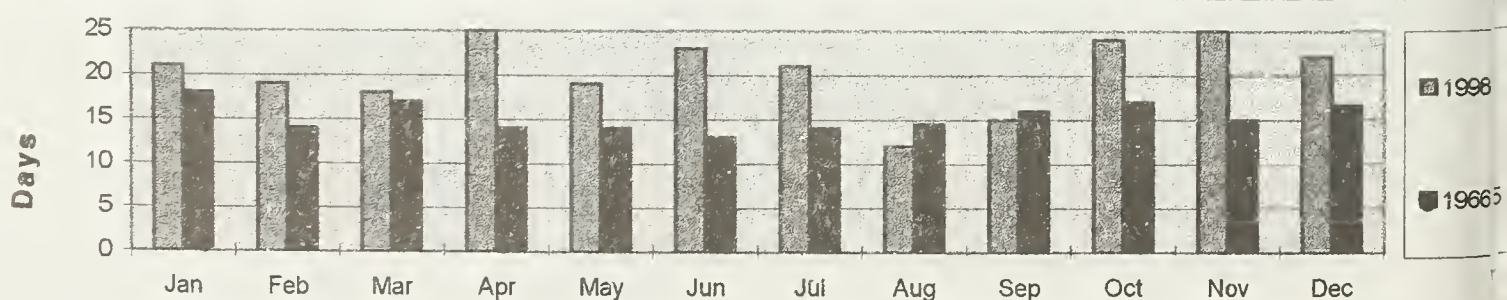
Comparison of Rainfall in 1998 with Average for 1966-95

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1998	106	36	48	96	91	74	95	58	43	116	81	50	894
1966-95	63	47	53	41	53	52	58	58	66	71	59	62	683



Comparison of Number of Days of Rainfall (at least 0.05mm) in 1998 with Average for 1966-95

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1998	21	19	18	25	19	23	21	12	15	24	25	22	244
1966-95	18	14	17	14	14	13	14	14.5	16	17	15	16.5	183



FORTH ISLAND BIRD COUNTS

1998

Each year various groups of counters, ringers, etc. try to visit each of the islands in the Forth to monitor the various species of sea bird present. The aim of the counters is to make these visits at about the same time each year so as to get comparable results. 1998 was not a good year either for the counters or the birds and as can be seen from the table below, certain counts were not possible due to the adverse weather conditions. Comparing figures with 1997, many species were down in numbers mainly due to onshore gales and then a very wet breeding season.

Fulmar: Numbers were down on all the islands (24% in total). On Isle of May where breeding success was monitored, the success rate was 0.35 young per incubating pair, the second lowest since monitoring began in 1986. A Blue Phase Fulmar was noted on Inchcolm on various visits.

Cormorant: Recently there has been a shift of birds from Carr Craig to Haystack. This year there was no attempt to breed on Haystack for the first time since 1992. Numbers were down in total by 17%.

Shag: On each island counted the number of nesting birds continued to increase. The most

noticeable was on the Isle of May, where 1997 had 502 nests and 1998 had 621 nests, an increase of approx. 23%.

Kittiwake: All islands counted showed a drop in numbers, especially the Isle of May where nests went from 6518 in 1997 to 4306 in 1998, a decrease of approx. 34%. Breeding success was extremely poor with the number of young per nest being less than 0.2 on Inchcolm and 0.02 on Isle of May.

Razorbill: The breeding season was late and numbers remained stable.

Guillemot: Numbers on each island increased slightly.

Puffin: A full burrow census was carried out on the Isle of May, giving 43,000 pairs. This doubled the count from 1993. Unfortunately the wet weather in July flooded burrows, killing many chicks.

Thanks to the Forth Seabird Group who coordinated the counts and provided many of the comments above.

BILL BRUCE

SUMMARY OF SEABIRD COUNTS FOR THE FORTH ISLANDS 1998

	Bass Rock	Craig leith	Lamb	Fidra	Eyebr ought	Inch keith	Carr Craig	Inch colm	Hay stack	Inch mkry	Inchg /Frb	Long Craig	May	Total
Fulmar (AOS)	x	x	x	217	0	332	0	190	0	32	215	0	365	986+
Cormorant (nests)	0	x	125	0	0	75	113	0	0	0	0	0	0	313+
Shag (nests)	x	x	x	86	0	25	3	2	2	25	0	0	621	764+
Gannet (nests)	x	0	0	0	0	0	0	0	0	0	0	0	0	0+
Eider (nests)	x	x	x	250	x	x	1	x	0	x	x	6	866	1123+
Great B-B Gull (nests)	x	x	x	2	0	1	0	0	0	1	1	0	c14	19+
Lesser B-B Gull (nests)	x	x	60	660	0	x	2	x	0	x	15	0	1533	2270+
Herring Gull (nests)	x	x	60	1540	x	x	50	x	15-20	x	x	0	2600	4265-4270+
Kittiwake (nests)	x	x	x	243	0	385	0	129	0	0	0	0	4306	5063+
Common Tern (nests)	0	0	0	0	0	0	0	0	0	9	Frb10	>63	127	>209
Arctic Tern (nests)	0	0	0	0	0	0	0	0	0	0	0	0	451	451
Roseate Tern (nests)														8
Sandwich Tern (nests)	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Razorbill (sites)	x	x	x	86	0	75	0	2	0	0	0	0	3859birds	163 sites 3859 birds
Guillemots (birds on cliff)	x	x	3200	215 sites	0	84	0	0	0	0	0	0	0	215 sites 30,247 birds
Puffins (birds)	x	x	x	1100	0	1400	0	19	0	12	0	0	43,000prs	43,000 pairs 2531 birds

KEY - AOS = Apparently occupied sites; x = no count; 0 = none breeding; Frb = Forth Rail Bridge; + = incomplete total

BILL BRUCE

OUR FINAL CRUISE ON THE MV GARDYLOO

MV GARDYLOO



What has been a yearly highlight, especially for the birdwatchers, came to an end on 27th August. From the end of 1998 dumping of sewage at sea is banned by EU Urban Waste Water Directive, so there will be no more free sails from Leith Docks out into the North Sea.

These trips have been enjoyed for many years, the earlier ones organised outwith the official Excursion Committee remit but throughout the '90s listed in the Excursion Programme. With few exceptions the outings have taken place in either the last week in August or the first one of September when the summer route saw us sail to a point seven miles east of the Bell Rock lighthouse. On very few occasions we have sailed in the spring, following the winter route to a point some ten miles north of St. Abb's Head. And luckily we have enjoyed fine weather on most occasions.

Except possibly in the early years, there has never been any difficulty in filling the maximum of twelve places, and indeed for some of the really keen birders the trip had become an annual event. Whilst the autumn track has always been considered preferable, due to likely sightings of Skuas and Shearwaters, the route taken in spring provided close approach to Fidra, Craigleith and the Bass Rock, giving spectacular

views of seabirds in their thousands - Gannets, Guillemots, Razorbills and Puffins. But for most of us the greatest excitement was the autumn sightings of Skuas, particularly the less common Pomarine and Long-tailed species, and of Manx and Sooty Shearwaters.

On all the later trips there was the expectation of seeing Little Gulls and Terns. They turned up from time to time as did some of the smaller species of birds, like Meadow Pipits and Swallows most years, and on single occasions, Pied Flycatcher, Wheatear, Whinchat, Garden Warbler and Pied Wagtail.

On this year's sail we recorded a few Arctic and Great Skuas, some small flocks of Manx Shearwaters, a few Sooty Shearwaters, masses of Guillemots, many Gannets, and a few Razorbills and Puffins. Away from birds, dolphins/porpoises (nobody seems to be expert in these) are usually spied, and on this latest occasion one or two were, but for the first time we saw Minke Whales, not one but two, and that was the last excitement before docking at Leith.

After thanking Captain Ron Leask and his crew for their hospitality over the years, we disembarked from the MV Gardyloo for the very last time.

JIM STEWART

CARRICK KNOWE SCHOOL PLAYGROUND

Ideas for enriching the school's natural environment have been more pupil-generated this year. However, time and budget constraints along with poor weather have hampered progress with developments. Achievements include creating a herb chequerboard by the annexe building which stimulated Primary 6 children to produce a packed herbaceous border in the area.

Like many Lothian schools, much work has been undertaken to raise awareness of traffic and road safety issues and their environmental impacts. Plans to improve local road dynamics are being considered to try to encourage more pupils to walk to school. Thus parents need to feel that their children will be safe. Changes inside the school gate have reduced congestion and separated waiting parents from passing pupils.

Plans to plant the patio area continue. Problem areas include the increased flooding of the playing field and other areas such as St. Margaret's Park. There are concerns that the enclosed 'Stank' is blocking. One or two of the less vital trees have dropped limbs in the recent storms.

Within the school the pupils are showing respect for others and increasing their general awareness of their surroundings.

SARAH ADAMSON



THE EDINBURGH BIODIVERSITY ACTION PLAN

"One of the problems of the twentieth century is that more and more people have come to live within towns, or at least within the confines of the urban sprawl. Without doubt this can have the effect of cutting them off from the countryside and perhaps alienating them from the vital cause of conservation which may appear to pertain only to that other landscape, the countryside. However, there is much of natural history interest within the confines of a great city.... From its foundation in volcanic rocks, its recent history held in peat, through its flora and fauna to its people, the City of Edinburgh is a vibrant living thing full of fascination. It has always been one of my favourite cities - now I know why."

Sir David J. Bellamy

Foreword to "Guide to Edinburgh's Countryside",
Edinburgh Natural History Society 1981



Since Sir David Bellamy penned his thoughts on Edinburgh, the city has spread out still further into the surrounding countryside, more houses have been built, more roads constructed and more people attracted into the capital for employment or as tourists. As a consequence, our wildlife resource has suffered - natural habitats like woodland, ponds and species-rich grassland have declined markedly, water-courses have been canalised and polluted, hedgerows and field margins have been dug up, and the coastline has been targeted for commercial and industrial expansion.

Nevertheless, Edinburgh still retains a wealth of wildlife thanks to the activities of the City Council, conservation groups such as the Scottish Wildlife Trust, and a whole host of community groups keen to conserve and enhance their natural heritage. However, this has been largely undertaken in an uncoordinated, piecemeal manner. The proposal to develop and implement a Biodiversity Action Plan for Edinburgh is intended to coordinate activities by establishing long-term conservation objectives and prioritising habitat and species actions. Only then can we ensure that our children have the opportunity to enjoy the beauty and diversity of plants and animals that we took for granted as children ourselves.

In 1992, the UK Prime Minister and over 150 Heads of State, signed the Convention on Biological Diversity at the Rio "Earth Summit". It was recognised that each country has its own responsibility to conserve and enhance its own biodiversity. The UK Government has since called upon local groups and organisations to get together to produce local Biodiversity Action Plans which can focus on conserving and enhancing species and habitats which are currently under threat at the local level. It is recommended that they are produced in consultation with all interested parties so that they represent an agreed approach to future conservation action.

In response to the Government's challenge, the Edinburgh Biodiversity Partnership was formed in Spring 1997, bringing together representatives from a wide variety of backgrounds including statutory organisations, local business interests, academic institutions, local voluntary groups and the City

Council departments involved in planning, land management and education. This partnership of almost 50 organisations recognises the need for an integrated approach to environmental stewardship and will ultimately facilitate implementation of actions on the ground, through shared responsibility and ownership. Its first year of activity was spent identifying the number, extent and conservation status of plant and animal species in Edinburgh. From an initial number of over 8000 species recorded for the city the Biodiversity Partnership has identified 100 key species and 12 habitats which reflect UK and Scottish priorities, including some flagship species and habitats particularly characteristic of urban areas. This emphasis on "urban species & habitats" will make the Edinburgh Biodiversity Action Plan the first urban biodiversity action plan in the world.

Over the last twelve months the Edinburgh Biodiversity Partnership has concentrated its efforts on producing the 12 Habitat Action Plans (HAPs) covering all the main habitats found within Edinburgh and its immediate countryside; and 100 Species Action Plans (SAPs), covering mammals, birds, fish, reptiles, amphibians, invertebrates, flowering plants, grasses, ferns, fungi, mosses, and lichens. These collectively make up the Edinburgh Biodiversity Action Plan which is intended to concentrate actions over the next five years. To date 64 of these have been drafted by naturalists, conservationists and ecologists all over the city and the remaining 48 are in production. Naturally, not all habitats and species of interest could be tackled in this first tranche, but if successful it is hoped that additional ones can be added to the Plan in future years.

The Edinburgh Biodiversity Partnership is keen to involve as many people as possible in the Plan's implementation. If any Edinburgh Natural History Society member wishes to find out more about the Plan or how to get involved, call me or the Biodiversity Officer, Susan Steel, on 529 3920.

DAVID JAMIESON

SENIOR PLANNER (LANDSCAPE & NATURE CONSERVATION)
CITY OF EDINBURGH COUNCIL



There is no doubt that the River Almond is one of Scotland's most polluted water courses. It is a legacy of man's misuse and exploitation of the natural environment and, therefore, a prime target for restoration in an age of greater environmental consciousness.

As a lowland river the Almond does not have the drama or setting to make it an outstanding landscape feature. In fact, polluted, often canalised and an inconvenient obstruction in an urbanised countryside, it is a river that has served more as a convenient drain to remove the by-products of progress. Under such conditions wildlife has been hard pressed and the river's degraded state has simply encouraged further misuse by successive generations.

Optimistically, this will all change. The catalyst for awakening a change of attitude, and an awareness of the real potential of the Almond, is in the Catchment Management Plan that was publicly launched in June 1998. Such plans may well become more common in Scotland in the future but that for the River Almond is a pioneering effort. Indeed, it is well ahead of its time since in due course there will be a European Directive that will drive such integrated river catchment management. What form this will take is unknown but the work of the partnership behind that for the River Almond is creating experience and good practice that will certainly be valuable to others.

But what of the river today? It is 42km long, rising in the Cant Hills of North Lanarkshire and flowing north easterly through West Lothian into the countryside of west Edinburgh, to join the Forth at Cramond. The catchment area is about 375 km sq, lying in the Central belt coalfields and, in its lower reaches, draining some of the most productive agricultural land in Scotland.

For the environmental analyst here lie the indicators to the downfall of the river over the last 200 years or so, from the industrial revolution to the urbanisation of the Central Belt and the growth, indeed creation of Livingston New Town. The discovery and exploitation of the coal and oil shale seams, the increased agricultural intensification and, superimposed upon all this, the expansion of settlements with all the detritus, tarmac and effluent that arises from "civilised" development, has shown its mark on the river.

Through time the natural river of the 17th century, with its salmon, otter and kingfisher, has declined to the state that it is in today. But even as far back as the 1600s the river has been under pressure, with first the agricultural revolution, then mineral exploitation followed by industrialisation and urbanisation. Each phase has left its mark and in particular the mine water effluent from abandoned workings will remain a problem for many years to come.

However there is much that can be done and this is addressed in the Catchment Management Plan. There is no single sector or body that can achieve the restoration of the river.

The key to successful river management is that the many players must be committed to the common aim. Legislation has a role, as does "policing", but much depends upon a change of attitude, practice and awareness.

The plan was co-ordinated by the Scottish Wildlife Trust and adopted by the main players in 1997. What is important about the plan is that it is the result of the working of a wide partnership, ranging from three local authorities, other statutory bodies, conservation organisations, farming and fishery interests and recreational users. This was no mean task but plans are of no value unless they can be implemented and this requires active participation and a momentum which drives an action programme. The early signs are that the plan is going to succeed in achieving the vision of a restored river of quality and value.

To start with, a Forum of the key statutory bodies has been established to co-ordinate action and policy across the three local authority areas involved. For the first time the river is being considered as an entity, where artificial statutory boundaries no longer matter. In this respect the West Lothian Local Biodiversity Action Plan (LBAP), adopted in 1998, has an important role in delivering the wildlife improvements that are necessary to welcome back and encourage the biological diversity of the river. Indeed the steering group responsible for implementing the biodiversity plan has adopted "rivers and streams" as both a national (UK) and local habitat priority, as the first habitat type to have its own targeted action programme. Although this will apply to all watercourses in West Lothian the focus will be the River Almond. Further, with the adjoining local authorities, the City of Edinburgh and North Lanarkshire, in the process of preparing their own LBAPs, it is hoped to adopt the same habitat action programme, with local priorities identified but with a common commitment and objective.

The jigsaw, however, is a complex one. Biological diversity cannot be restored or enhanced unless the environment has been cleaned up. This must be the priority task and the signs are that this will happen, albeit slowly. The first major steps have been taken. For example East Scotland Water is undertaking a major capital investment to ensure that sewage treatment along the Almond meets high environmental standards. The Coal Authority has also stopped a major pollution threat from the closed Polkemmet mine, where polluted mine water had been rising, with an anticipated breakout to create an environmental

disaster for the river. The water is now being pumped out and treated before draining into the Almond. This provides a new clean water source for the river which in itself has environmental benefits.

Locally sewage pollution from poorly designed drainage systems in Whitburn has been remedied. Mine water contamination at Foulshiels Bing, Stoneyburn, has been stopped by the Council investing in a reed bed treatment system, similar in effect to that earlier built to treat the effluent coming off the Seafeld Bing. Such systems are also being introduced by developers to treat the contaminated run-off from urban sources. On the agricultural front, farmers are being encouraged to manage river banks more sympathetically and to create buffer zones between the water course and their crops, where fertiliser and herbicides are not used. Advice, grants and common sense are the key influences to change, although the threat of legislation is always there. Further, planning departments can have a vital role in applying conditions to development that safeguard and enhance the river.

Even adopting a policy to ban culverting, as will appear in the new West Lothian Plan, can make a significant contribution to protecting the river system.

To have Water Voles, Otters and Kingfishers back will be the most effective indicator to show that the environment of the catchment area as a whole has been improved. To restore the river to its former glory will take time but will be an immense achievement, with great benefits for wildlife, for those who live and work in the area, and for those who wish to get out and enjoy the environment. The commitment is there and the signs are good but it is still a daunting task. However, if we are really wishing to hand on a better environment to future generations what is being attempted for the River Almond is an example of the challenge that this generation faces for the Millennium.

DR JOHN C. SHELDON

Footnote: John Sheldon chairs the River Almond Forum of statutory bodies that is steering the River Almond Catchment Management Plan.



EARLY HAWTHORNS (JUST ORDINARY CRATAEGUS MONOGYNA)

On a fine day in December last year (1998) I went for a walk on the south side of Blackford Hill; past the allotments, up to the edge of the Hermitage, and down to the wooden bridge over the Braid Burn. There's a sheltered patch coming down to the burn, and I have noticed that the Hawthorn bushes there usually break leaf early - but I didn't expect to find new leaves in December! I nibbled a few and they were definitely fresh. We used to call the new shoots "Bread-and-cheese" when I was young, and eat them.

Hawthorns which produce leaves and even flowers at the turn of the year (and then again in May) are not unknown in the south of England, but I was surprised to see it happening here. The most famous early flowering Hawthorn is the Glastonbury Thorn, said to have sprung from the staff of Joseph of Arimathea, and to have flowered regularly at Christmas. It seems to have been felled in the 17th century, but early-breaking Thorns are said to be its cuttings.

There are other legends of staffs which suddenly burst into leaf (Tannhauser for instance), and certainly cuttings from many trees, Willows in particular, will easily root if they are reasonably fresh. However the Hawthorn was a magical tree long before Christianity. The Rowan in the north and the Hawthorn in the south seem to have provided protection from the other world, and both figured largely in May Day celebrations, where there was usually a good deal of emphasis on fertility too!

JACKIE MUSCOTT

LIFE IN THE SCOTTISH BORDERS

We moved from Edinburgh to the Scottish Borders 8 years ago. One of our first observations was the frequency with which we encountered Barn Owls. I noticed that a recent survey shows that nationally the Barn Owl population has stabilised. We still see them here but locally less frequently. I think that this is due to agricultural changes in set-aside arrangements. Eight years ago a largish local farm was put entirely into set-aside; i.e. all fields were laid down to grass, which was not grazed or conserved, but just cut over, once a year. This regime lasted for 5 years and apparently became a food source not only for Barn Owls, but for Kestrels too which were also seen more frequently. The late John Winham, a previous Journal editor, made a botanical survey of these fields at that time. Set-aside still plays a part on local arable farms but the proportion of land left uncropped is now less, and varies from year to year. Also in most instances it is rotated around a farm, so that fields are only taken out of cultivation for one year at a time. This naturally does not allow time for populations of Voles and Field Mice to build up.

A preponderance of autumn-sown crops - wheat, barley and oil-seed rape - means that after harvest, many fields are immediately cultivated and resown. Fortunately, this year a large adjacent field is overwintering in stubble and for 2 weeks in December it hosted Whooper Swans with numbers varying from the teens to 80+. For a few days the same field also attracted 4-500 Pink-foot Geese. On many mornings the field was quite black with Rooks and Jackdaws feeding away, probing the soil and tossing the straw about.

Another bird observation that has struck us here in Berwickshire is the absence of Magpies. These were of course, numerous in Edinburgh and can be seen further south into Northumberland, but not here. Other birds seem to have fairly rigid territorial boundaries. I have never seen a Buzzard locally, but go 15 miles west and an observation is almost guaranteed. Peregrine Falcons have successfully reared broods in the area for each of the last 5 years. They can frequently be seen and heard around their nesting sites yet travel a road only a mile away and they are seldom to be seen.

Arable farming is frequently blamed for the demise of certain birds. Skylarks and Partridge are reported to be coming into the 'at-risk' category, but locally we find this hard to understand as both species can be readily seen and heard. Arable land it may be, but there are plenty of rough grass areas, woods and hedges. Many trees have recently been planted and gaps in hedges filled in with new plants. Two new hedges of considerable length have been planted locally.

The substantial farm steadings built in the 18th century, cannot accommodate modern machinery and many of them are now falling into decay and in the process provide many nesting sites for birds.

In spite of these factors we are still somewhat surprised to find that we see a smaller variety of bird species here than we found in Edinburgh.

DUNCAN GILL

A RARE SPOT - 5-SPOT LADYBIRD

This specialist Ladybird seems to favour unstable river shingles. Its scattered locations include Wales, Northumberland and the River Spey.

Always on the lookout for Ladybirds, I often keep my eyes trained on the ground or low vegetation, and on a cold, wet and windy October day, at Findhorn Bay, whilst walking near washed-up tree trunks this was rewarded. I spotted a ladybird, small and red and black in colour. On closer inspection, 5 spots were counted. On separate trunks there were two small groups of 5-spot and Larch ladybirds. My first view of a 5-spot Ladybird!

On reflection, 1998 has been a poor year for Ladybirds, especially of the usually common 7-spot. However, despite the cool damp weather, a variety of species has been seen. These are assorted 2-spot and 10-spot, 7-spot, eyed, cream spot, 14-spot, Larch, striped and 5-spot.

Varieties of 2-spot Ladybirds have again overwintered in their regular sites of bark cracks in St. Margaret's Park, Corstorphine.

SARAH ADAMSON



5-spot Ladybird

BOTANISING IN THE BURREN

The Burren had been on my "places to go" list for quite a few years and so when two friends who are expert botanists started talking about a visit there I jumped at the chance to join them. The Burren is situated in County Clare in Ireland, to the south of Galway Bay. It covers an area of about 375 square kilometres, rising to 300 metres and apart from a cap of shale around and to the north of Lisdoonvarna in the south-west, it consists entirely of carboniferous limestone. The topography is typical of such regions with deeply fissured rock lying in horizontal beds with stepped slopes when seen in profile, underground streams and caverns, and disappearing lakes or turloughs formed as rain gathers in hollows but seeping away into the earth within a few days. The only surface river is the Caher which flows down the so-called Khyber Pass to reach the sea at Fanore where there is a sandy beach and an area of dunes. In the south-east corner is an area of wetlands where there are more permanent lakes.

The overall impression of the whole region is of bare grey rock and it is easy to see why one of Cromwell's generals commented that there was "not water enough to drown a man, wood enough to hang one, or earth enough to bury him". This is a most misleading description, however, for in their fissures, or grykes, the grey rocks of the Burren support one of the most remarkable communities of plants in the British Isles, southern species growing at the northern limit of their range, northern ones growing at their southern extremity and alpine at sea level. Moreover, lime-loving plants can be found growing cheek by jowl with lime-haters. I had seen limestone pavements in the north of England but the Burren introduced a new concept - they form the hilltops, they are the shoreline, they occupy the whole landscape! In spite of its apparent desolation, the region was quite densely populated in ancient times and is dotted with Iron Age forts, Megalithic tombs, cairns and Holy Wells.

Our base was a modern holiday cottage built to a traditional Irish design complete with thatched roof (and even a thatched conservatory) in the village of Ballyvaughan on the north coast overlooking Galway Bay and this gave easy access to all parts of the Burren. We planned to visit a different area each day to try to find as many of the region's specialities as we could. Friends who had been there before, in particular Marjory Harkness and Margaret White, provided

us with a great deal of information including maps, booklets, an account of a botanical visit, and a plant list, which pointed us in the right direction and without which we would have seen a great deal less.

We sailed forth on the first morning making for Black Head five miles away. The sun was shining, a light breeze ruffled the blue water of the bay and the reddish purple of Bloody Crane's-bill (*Geranium sanguineum*) was everywhere. Delayed by a flower-filled meadow, a shoreline limestone pavement and a saltmarsh, we finally reached our objective well into the afternoon and returned home as the sun was setting with a long species list which included Maidenhair Fern (*Adiantum capillus-veneris*), Spring Gentian (*Gentiana verna*) and Hoary Rock-rose (*Helianthemum oelandicum*). We looked forward to an idyllic week.

Unfortunately, weatherwise, it was not to be, as the wet winds from the Atlantic which sustain the vegetation prevailed for most of the rest of our stay. However, this did not deter us from our botanising. The area towards and round the famous Poul nabrone Dolmen in the hills south of Ballyvaughan provided a change of scenery and vegetation, as did the limestone pavement abutting the sea at Poulsalagh, the rocky ridge above it and the environs of Lisdoonvarna nearby. Lough Bunny to the east and the wetlands of the Carran Depression which we explored en route gave further variety although the day we spent there was quite a struggle against wind and rain. Our species list grew and grew - Bee Orchid (*Ophrys apifera*), Dropwort (*Filipendula vulgaris*) the limestone version of Meadowsweet, Squinancywort (*Asperula cynanchica*) and so on. A return to the sandy shore and dunes at Fanore in better weather brought us droves of Pyramidal Orchid (*Anacamptis pyramidalis*), Common Dodder (*Cuscuta epithymum*) crawling all over the orchid meadow, Yellow-wort (*Blackstonia perfoliata*), Sea Bindweed (*Calystegia soldanella*) and more Bee Orchids.

Our last day came and we reviewed the gaps in our plant list. We had failed to find Large-flowered Butterwort (*Pinguicula grandiflora*) at Lisdoonvarna and Fly Orchid (*Ophrys insectifera*) at Lough Bunny where we had also forgotten (!) to look for Shrubby Cinquefoil (*Potentilla fruticosa*) and we had not seen the rare Irish saxifrage (*Saxifraga rosaceae*) anywhere although we had found the very similar Mossy Saxifrage (*Saxifraga*



Fly Orchid
Ophrys insectifera



Bee Orchid
Ophrys apifera

hypnoides) almost all over the place. We had all seen Shrubby Cinquefoil fairly recently in Upper Teesdale and of the others the best bet seemed to be Irish Saxifrage as we had been told that it grew within one of the Iron Age forts above Poulsalagh. On a poor day, it was a map and compass job to find the fort and it needed a real expert to identify the Irish Saxifrage as there was plenty of the Mossy

Saxifrage around; the distinguishing factors are minute and the Irish was growing **outside** the fort. The final thrill of the day came as we picked our way carefully down rocky slopes to regain the coast road. One of my companions came upon a colony of Fly Orchids growing at the foot of a little cliff. The best finds are the unexpected ones.

MARY CLARKSON

THE CORSTORPHINE SYCAMORE

Among the many casualties of the Boxing Day gales was the Corstorphine Sycamore which grew in a garden at the corner of Dovecot Road and Saughton Road North.

Acer pseudoplatanus corstorphinense is mentioned in Alan Mitchell's 'Field Guide to the Trees of Britain and Northern Europe'. He dates it from 1600 and states that in 1974 it measured 17 metres high X 3.8 m in girth and was in a healthy state. He describes it thus: 'Leaves unfold bright yellow and fade gradually to normal by mid-July, occasional shoots of new yellow leaves in August.'

According to local tradition a monk brought a sapling from the East in the early 15th century, but it is more probable that it was one of an avenue of trees leading to Corstorphine castle, planted by Henry Forrester, and dating from the 16th century. In the Statistical Account of 1795 the Rev. James Oliver noted: 'There is growing near the village in a close belonging to Sir William Dick, a Sycamore of considerable size and the largest in Scotland, which in the end of May and beginning of June exhibits an appearance of the most striking beauty. The side which is exposed to the sun, in the colour of the leaves, is of the richest vivid yellow hue'.

The tree was the scene of the murder of Lord James Forrester in 1679 by his niece and mistress Christian Nimmo. Her ghost is said to haunt the site. In this century a local market gardener and an artist from the nearby tapestry studio both claimed to have seen the ghost of a woman near the tree.

In 1955 Edinburgh Corporation placed a Tree Preservation Order on the Sycamore for its protection. In 1970 the last Dickson Laird of Corstorphine, Mr. William Dickson, gifted the tree and ground to the Corstorphine Trust, saying 'With this twig, earth and stone I give you sasine of the Corstorphine Sycamore tree'. In the late 1980s, it became clear that the tree was not in a healthy state and so advice was sought as to what should be done. One opinion was that it was so diseased it should be taken down, but another was that it could last several more decades if it was properly supported by hawsers to steady it.

An appeal to raise funds had to be made as the cost of the work was about £4000.

Since then the tree was regularly inspected and the occasional branch lopped off for safety.

The tree does not produce seeds, so cuttings had to be taken. This was done about the turn of the century and there are now several mature trees in the area, including one at Kirk Stile in the High Street and another at the west entrance to St. Anne's Church.

In the 70s the Forestry Commission grew on a number of cuttings, some of which were sold and some given to a descendant of the Forrester family.

When news of the destruction of the tree became known there were many enquirers to the Corstorphine Trust about what was going to happen to the timber. Unfortunately much of the trunk is rotten so that the options are limited.

A violin maker immediately offered to make some instruments from the wood, to be given for 5 years to young players taking part in the Mull Festival - but these will not be ready for playing for at least 6 years. Other pieces of wood will be removed for drying and preserving and then made into small items which will be sold for Trust funds. Two woodcraft centres are willing to make such artefacts.

The proprietor of the garden where the tree stood, Mr. Holmes, is willing to have the stump retained and climbers planted to grow up it.

FRANCES DUNN

Historical information from 'Historic Corstorphine and Roundabout' by A.S.Cowper.

Additional material from the Corstorphine Trust Archives, with thanks to K. Aitchison and Dr. J. Cormack.



ALL THAT'S LEFT!

A STOAT STORY

Hopetoun Parkland is over-run with Rabbits so there are several pairs of Stoats which predate them and help keep their numbers down and incidentally give great pleasure to a quiet observer usually eating lunch at one of the picnic tables.

On 11th May I watched a Stoat running across the grass towards a tree near my seat. It dived amongst the roots, emerged a few minutes later to mark the territory and was then joined by its companion. Both disappeared underground though one head or another popped up at intervals until I was joined by an (unwelcome) visitor with two Scottie dogs.

It was probably the same pair of Stoats which chose to nest in the roots of another tree not far away. I often saw an alert little face watching me from the Rhododendrons. It would disappear and then sit up for a second look.

On 6th July I was enjoying my sandwich when I heard a disturbance behind me. Shortly afterwards a hunting stoat emerged from the shrubbery following a scent, almost running over my feet before it disappeared whence it came. I heard a Rabbit squeal briefly. A few minutes later the Stoat reappeared carrying its victim across the grass to its den from which a second Stoat emerged. The pair disappeared behind the tree. Shortly afterwards I counted four animals, two of which played with the Rabbit carcase and generally enjoyed a rough and tumble. Meanwhile the hunter left to resume hunting. Afterwards I noticed the flattened grass around the tree and well-used paths radiating outward from it.

On another occasion a Stoat out hunting leapt up one tree trunk and then another to get a better sighting of its quarry. One day three Stoats ran across a clearing closely following each other, perhaps a parent with two kits on a hunting foray. Then a visitor told me how she had seen a Stoat kill a young Rabbit and was quite upset; both animals had disappeared by the time I reached the scene.

For me, throughout the summer, these attractive creatures have been a delight to watch.

MARY ROBERTSON



STOAT



ERMINE
stoat in
winter

THE
WEASEL
IS EASILY
DISTINGUISHED
BECAUSE THE STOAT
IS TOTALLY DIFFERENT!

A large male weasel may be about the same size as a small female stoat. The important character is the slightly bushier tail of the stoat with a black tip.



WEASEL

Seen a weasel or stoat lately?

Edinburgh City Council is currently preparing a local Biodiversity Action Plan to prioritise and co-ordinate action on the conservation of a selected list of 100 species and 12 habitats most representative of Edinburgh's natural biodiversity. The weasel is included on the list as a species of popular appeal in national and local decline.

The Edinburgh Green Belt Trust is leading on the Weasel Action Plan for which we need information on the population size, trends and its distribution within the Edinburgh City boundary. For this we are appealing to the public for all recent and past sightings of weasels and stoats in the Edinburgh district area. Please provide as much information as possible on the location, date, and number sighted and get in touch ASAP.

Sarah Hipkin
Edinburgh Green Belt Trust
Laundry House, Dalkeith Park
Midlothian EH22 2NA

Tel.: 0131 654 1933
Fax: 0131 654 2229

DISTRIBUTION OF THE COMMON DARTER DRAGONFLY

Sympetrum striolatum

IN SCOTLAND

In Scotland during the last 2 or 3 years there have been more new records for *S. striolatum* than for any other species of odonate.

There are 3 members of the *S. striolatum* group : *S. striolatum*, *S. nigrescens* and *S. nigrifemur*.

S. striolatum is widespread and abundant over much of West Europe. Its range extends to North Africa and in a number of named forms, right across Asia to Japan. The type locality of *S. striolatum* is in Poland. It is common and widespread in England.

S. nigrescens (the Highland Darter) is restricted to coastal parts of Ireland, the Isle of Man, the North and West of Scotland, the Inner and Outer Hebrides and S. and SW Norway. The type locality of *S. nigrescens* is Lochinver.

S. nigrifemur is confined to the islands of Madiera and the Canaries.

All three of these *Sympetrum*s are very similar. The males are red with black markings, whereas the females and immature males are greenish-yellow with black marks. Comparing the two which occur in Britain: mature males of *S. nigrescens* are a darker red than those of *S. striolatum*. The sides of the thorax in both sexes are heavily marked with black in *S. nigrescens* whereas the corresponding area in *S. striolatum* has thin black lines.

About 1980 Tommy Boyd discovered *S. striolatum* at the Marl Loch at Aberlady where it has been reported breeding ever since. From there, breeding populations have spread eastwards along the coast in more recent years. Coastal records of *S. striolatum* occur also in SW Scotland and in Fife.

In Britain intermediate forms occur, showing gradations of body colour and pattern which can make reliable field identification impossible. Hence in the *Atlas* all records are lumped as *S. striolatum/nigrescens*.

Formerly the three members of the *S. striolatum* group were considered to be sub-species of *S. striolatum* but in 1955 A.E. Gardner concluded that they were separate species based on characters of the genitalia. In 1983 Bob Merritt and others questioned the validity of Gardner's observed differences in the genitalia of *S. striolatum* and *S. nigrescens*. The question is still unresolved.

Looking at Map 1 with records up to 1990 and bearing in mind that all *S. striolatum* and *S. nigrescens* records are combined, there is an obvious gap between *S. striolatum* in England and

S. nigrescens in NW Scotland. Records in SW Scotland look like an extension of the range of *S. striolatum* northwards. These records are largely coastal. Looking now at Map 2 showing records updated to 1998, the spread northwards is quite marked. The inland records are particularly interesting. At several of them breeding has been proved.

Whereas *S. striolatum* is well-known to migrate northwards especially in autumn, *S. nigrescens* is generally considered to be relatively sedentary. Of particular interest are the NE records at Spey Bay and Loch of Strathbeg. Both are reserves and are regularly visited. Both had *S. striolatum* present for the first time in September 1997. Ovipositing was seen at Spey Bay. Also at Spey Bay a single probable but unconfirmed *Sympetrum flaveolum* (Yellow-winged Darter) was seen at the same time. During this period there were mass arrivals of migrant dragonflies including several different species of *Sympetrum* into South England.

In 1997 the S.W.T. Environmental Services did an odonata survey of the Forth & Clyde and the Union Canals. The recorders reported *S. nigrescens* but with some showing intermediate characters along the Forth & Clyde Canal and Jackie Muscott noted a red dragonfly at the Falkirk end of the Union Canal. The recent rapid extension of range in Scotland of *S. striolatum* / *nigrescens* is indisputable. How much of it is due to dispersal from local breeding sites and how much has been brought about by long-distance migration is unclear. It will be interesting to see how the situation develops.

The 'Atlas', based on 25+ years of recording set up by the Biological Records Centre, is the **Atlas of the Dragonflies of Britain and Ireland** by Merritt, Moore and Eversham, published by HMSO, price £15.95

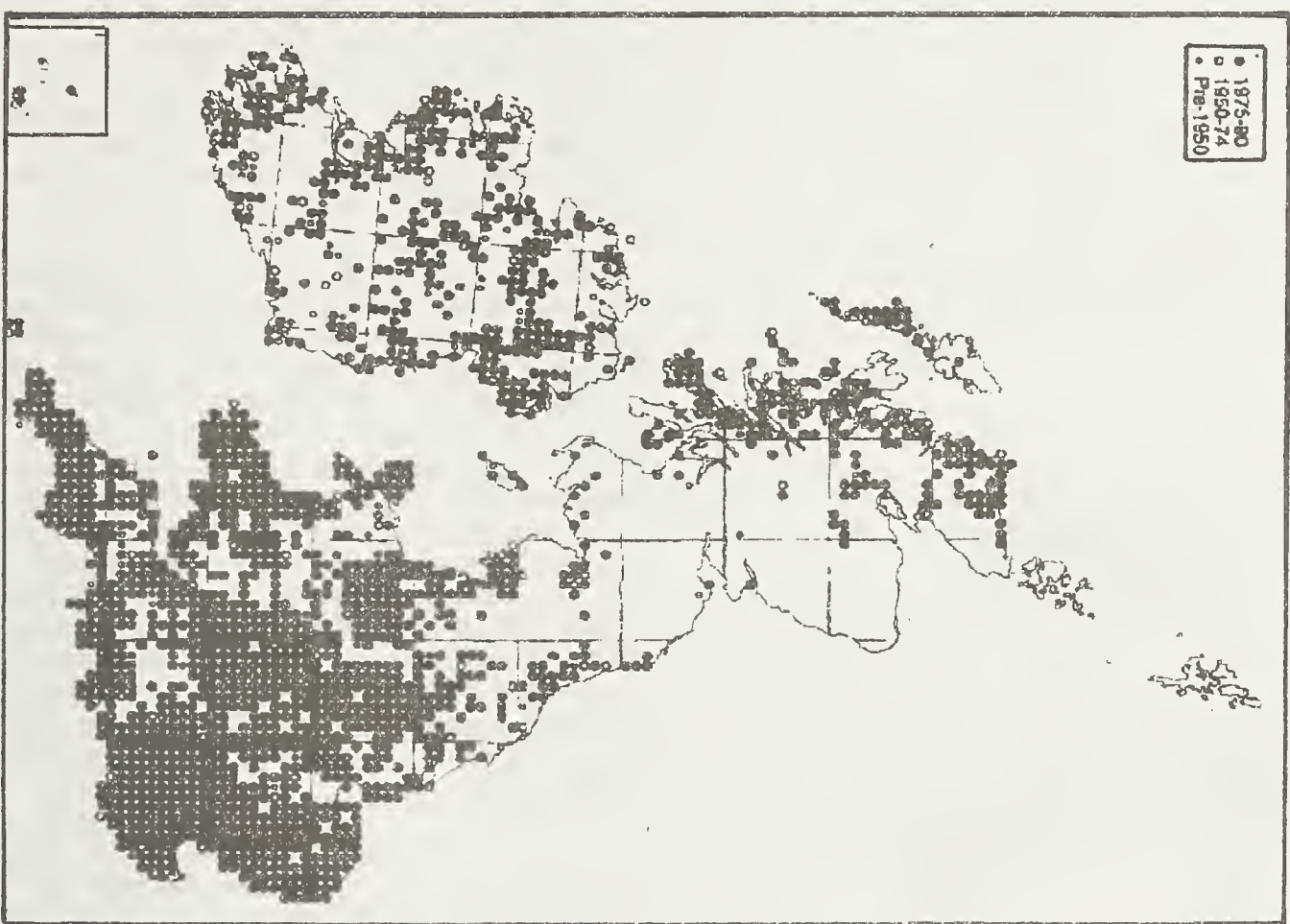
BETTY SMITH



MAP 1

Sympetrum striolatum (Charpentier)
Sympetrum nigrescens Lacaze

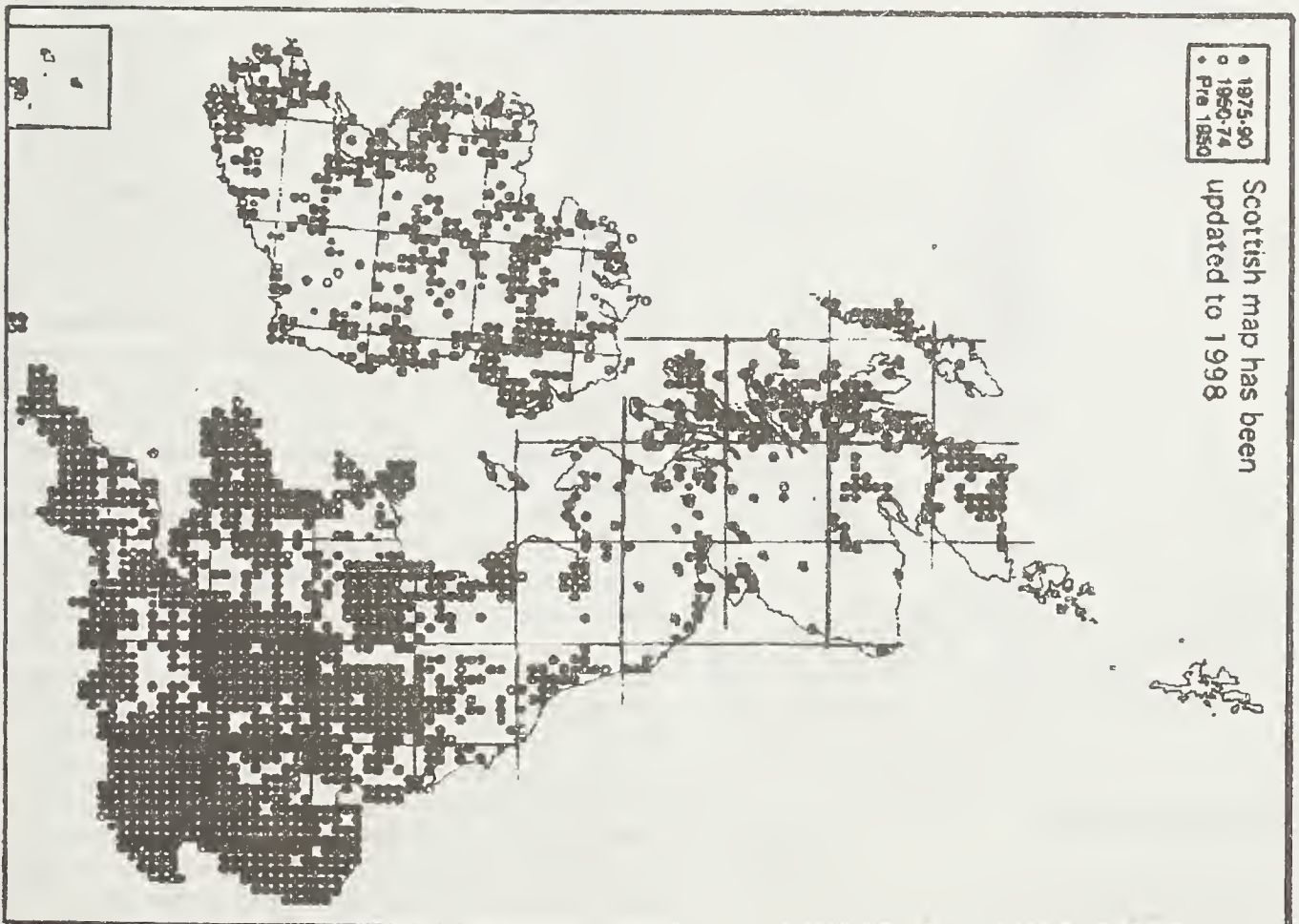
Common darter
Highland darter



MAP 2

Sympetrum striolatum (Charpentier)
Sympetrum nigrescens Lacaze

Common darter
Highland darter



WOODHALL DEAN SWT RESERVE UPDATE



WOODHALL DEAN

Ordnance Map 67
Grid Reference NT 680728

The SWT Reserve of Woodhall Dean contains one of the best remnants of Sessile Oak woodland in Scotland. Until about 100 years ago the trees were systematically felled for charcoal production and the tannin industry. Most of the other hardwood species within the area being exploited were felled and the consequent outcome is a large central area of single species multi-stemmed Oak.

However along the bottom of the valley a reasonable number of the old Oaks were left standing and these hoary ancients will have maintained the rich diversity of invertebrate species characteristic of ancient Oak woodland. There are two rather disappointing features of the 60 hectare reserve. Where the solid canopy is of Oak the floor of the wood tends to be wall-to-wall Woodrush. The second drawback is that the reserve is bordered by the top of the steep banks lining the two burns and tends to be fairly narrow. However the good points far outweigh the bad. Some 10 hectares of semi-natural Oak woodland remain with a cover of trees which thin out as one ascends the two valleys onto the upland moors for a total length of over 3 kms from the Ford. This update summarises the work done in the reserve during the past five years of active management.

One primary aim of management has been to provide more breadth to the woodland where possible. An area of sadly neglected planted conifer - mixed Scots Pine, Sitka and Norway Spruce (A on the map) was felled and replanted with some 2500 native hardwoods. During the six months after planting, not a drop of rain fell and there were heavy losses due to drought. However, after more planting, the trees are now shooting up and beginning to outgrow the 5-6 foot high Bracken. Further into the reserve, in a recently purchased strip of land running parallel to the Woodhall Burn, another large area (B) has also been planted up with some 4500 hardwoods. In this exposed situation tree establishment is difficult but progress is being made. Weeding and maintenance of these larger plantations is time and labour consuming and no further large scale planting is planned for the immediate future. However the volunteers, mostly members of the management committee, have been busy with their own small-scale planting. On the west side of the thin line of trees hugging Boonslie Burn there is a cover of thick Bracken. Many groups of mixed hardwoods are being established in the Bracken with 80 trees at (Y) and around 220 in eight well-spaced groups at (X). At the south end of this (Z) a small copse of Aspen proved to have innumerable surrounding suckers growing up to 15 metres away which were subjected to heavy grazing. Aspen is particularly favoured by grazing animals. Some 25 well-spaced suckers were protected by stakes and netting and are shooting up as though to make up for lost time. As Aspen is an upland tree of good conservation value but very much under threat, 40 suckers have been transplanted lower down the valley in two groups at (X). Planted trees will include Alder

and Willow which suit the wet conditions and will hopefully eventually restore some of the lost diversity.

The current 5 year Management Plan stipulates the felling of all the non-native (and very invasive) Sycamore. Two small areas (coupes at C and D) of Oaks were felled on a trial basis to open up areas which would allow of possible natural regeneration and one of these (C) had a large complement of Sycamore. Small groups of Sycamore were also felled at (E) and (F), and at (G) some 40 trunks around 0.5 - 0.7 metres diameter are being felled. These areas have been or will be planted up with mixed native hardwoods. At (H) over 100 Sycamore saplings have been cleared and the many remaining large trees there of this species will hopefully be tackled in winter 1999-2000, virtually completing the task. Two areas of planted Larch present no problem and are being retained at present, although they are now over-mature and have little future.

A path system (dotted line) has been recently completed although some tidying up work remains to be done. It runs from the Ford, where there is an unofficial 'car park', through (A), over the Main Bridge, along the south side of Woodhall Burn and over a new bridge at Tinker's Leap. There is then a series of 130+ steps winding up the steep slope to join the plantation at (B), returning to rejoin the path beside the Main Bridge. The return journey is nearly 3 kms in length and what used to be a very difficult route is now an enjoyable half-day walk showing much of what is happening on the reserve.

Natural History interest includes good areas of spring flowers including banks of Bluebells, Primrose, Moschatel and one tiny group of Wood Vetch. Whitethroat, Garden and Willow Warblers, Redstarts and Spotted Flycatchers arrive to join the breeding Dipper, Grey Wagtail and Woodcock. A pair of Buzzards reared 3 young in 1997 but, since the neighbouring estate was bought and shooting intensified, these have disappeared. Jays too are recent arrivals and, although rather retiring, are breeding successfully. 1997 was an excellent year for butterflies, which include Dark Green Fritillary, but a hunt for Purple Hairstreaks has so far been unsuccessful. One Interesting species recently reported is a lichen *Gyalecta ulmi* which used to occur in its few known sites mainly on the bark of Elm. Now in Britain it is known mainly from calcareous rock and recorded, since 1960, from only 9 10-km squares, 7 of which are in Scotland.

Most of the major works in the reserve have been done by the SWT work teams with good help from the Lothian Conservation Volunteers but, increasingly, the SWT volunteers have involved themselves in tree-felling, planting and weeding of the young trees. This latter, although extremely satisfying, is time-consuming on such a large scale. We would appreciate help at plantation A which needs weeded for at least another two years although many trees can now fend for themselves. The ideal would be for one or two persons to 'take over' a small area which could be weeded in around two hours during three visits (May, June and July /August) each year. Who would like to bring in the Millennium by helping our ancient woodlands?

R.W.J. SMITH

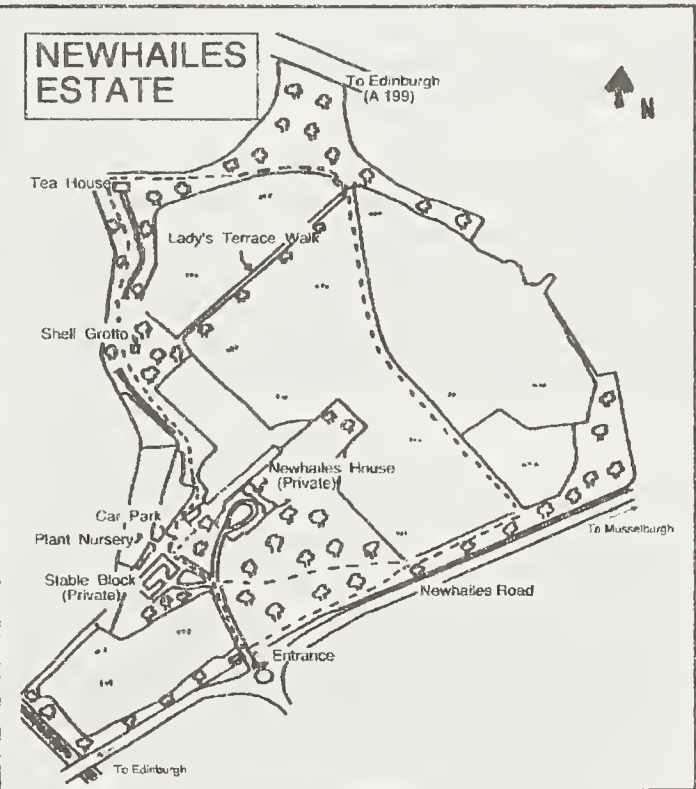
TEL: 0131 440 0888

NEWHAILES

The National Trust for Scotland (NTS) took over the care of Newhailes House and remaining estate in 1997. Although the house is not likely to be open to the public for some years the grounds have been made safe and accessible (without destroying the natural habitats which have been formed) and the public are now welcome to walk there.

The house at Newhailes stands on a low plateau about 75 ft above sea level bounded on the west by the valley of the Brunstane Burn and on the south-east by the line of Newhailes Road. To the north-east the ground drops down within a mile to the old A1 and beyond that to the shore of the Forth and Fisherrow Harbour. In the distance the site looks towards North Berwick Law. St. Michael's Church at Inveresk is clearly visible to the east and the East Coast rail line is heard but not seen as it passes through a cutting immediately to the south.

Edinburgh Natural History Society (ENHS) continues to provide the NTS with records of the flora and fauna found in the grounds. Two walks in the company of Toni Hubbard (the NTS Ranger) during the year led to several additions to the earlier lists. The list of plant-life is the most extensive and (thanks to the work of



Jim Stewart) the spiders are all well recorded. To date there are few records of insects, snails or other

'creepy crawlies'. If members visit the grounds and spot something unusual please make a note of it and pass it on as it could be a useful addition to the records.

In September Toni, in an illustrated lecture to the ENHS, confirmed fears that the felling and removal of some of the large trees from the site had led to a reduction in natural history interest - the Woodpeckers had gone.

Adjacent to the north-western end of the house is a muddy paddock heaped with rubbish, overgrown with Nettles and Brambles and containing a dozen or more medium-sized Sycamores. At the far end, a massive brick wall is shrouded with Ivy and there appears to be a classical portico amongst the sweeping branches of a Yew tree. Further investigation behind that facade reveals a roofless brick lean-to shed and beyond that, under bushes in a mound of earth, is the entrance to the ice house.

The NTS are considering what should be done about the possible restoration of this garden. It is not known if the design for a formal flower garden which was planned for Miss Christian Dalrymple by John Hay in 1818 had ever been fully implemented since a photograph (taken in 1909) shows a different layout of paths and flowerbeds. However in that photograph, the fixed structures of the garden (i.e. walls, sheds, conservatory) were all consistent with the original plan. The basic layout was confirmed by a large scale Ordnance Survey map of the 1890s which also marks a fruit store and the mound of an ice-house but no paths.

As a result of the ENHS visits some members of the Edinburgh Archaeological Field Society (EAFS) became interested in this area. The EAFS were looking for a site to try out equipment for measuring ground resistance and permission was given for it to be tested on the hidden paths and flower beds of the lost garden of Newhailes. Members of the EAFS have made several visits to the grounds with resistivity equipment and aim to map the structure and layout of the area of the 'Flower Garden'.

The procedure of geophysical prospecting in archaeology (called resistance surveying) has been demonstrated on the Channel 4 television programme Time Team. Four metal rods (electrodes) are inserted into the ground: each electrode is connected by a cable to a measurement box. Two of the electrodes are used to pass an electric current (from a battery-

powered generator) into and out of the ground. The current produces a pattern of potentials in the ground and the differences in potential can then be detected by the other two electrodes. The ground to be measured is marked out in metre squares and measurements are made with a pair of electrodes positioned at the centre of each square. The greatest effect on the readings obtained is determined by the condition of the ground in the immediate vicinity of the moving electrodes. Where the ground is dry, stony or compacted higher readings are obtained and when it is moist they are lower. The variation in the pattern of potential differences detected by the electrode (for a fixed value of current from the generator) represents changes in the resistance of the ground between them. It should therefore be possible to distinguish paths from flower beds and buried wall foundations from infilled ponds and ditches.

The survey was begun in the northern corner of the garden behind the conservatory wall. However, lean-to horse stalls (still occupied), bedding sheds and a large concrete plinth precluded taking any measurements within ten metres of the north-east wall.

Almost immediately areas of high and low resistance began to show up and when plotted seemed to conform to the general pattern of paths and beds in the John Hay plan. (This part of the garden is not in view in the 1909 photograph.)

The larger area to the south of the conservatory wall is encumbered by the collapsed front of the conservatory along its northern edge and has a number of large self-seeded trees that complicate laying out accurate grids of one metre squares. A survey of this area covering some 1300 sq. metres took almost three months and the results are still being analysed.

At the beginning of the survey a brick wall running NE/SW was chosen as the base line for the measurement area. The line of this wall once continued in the southern area as a wire fence which can be seen in the photograph. It is clear that several of the self-sown Sycamores are standing precisely on the line of this fence. It seemed that the other trees might indicate the situation of the former flower beds but this has not been borne out by the initial plotting of results.

During the resistivity survey a Pygmy Shrew (*Sorex minutus*) emerged from its hiding place between the bricks in the wall - now there's a new record!

EUNICE AND DENIS SMITH

FROM THE NEWSPAPERS

AN ITEM IN 'THE HERALD' OF 8TH DECEMBER 1998 REPORTS ON THE DISCOVERY BY LICHENOLOGISTS BRIAN AND SANDY COPPINS, OF THE VERY RARE RIVER JELLY-LICHEN IN SEVERAL OF SCOTLAND'S CLEANEST SALMON RIVERS. THESE SITES ARE OF INTERNATIONAL IMPORTANCE FOR THIS LICHEN WHICH HAS ALL BUT VANISHED ELSEWHERE. 'THE RIVER JELLY-LICHEN, *COLLEMA DICHOTOMUM*, DEMANDS RIVER-BED ROCK, LIGHT AND GENTLY-FLOWING WATER TO SURVIVE AND BUILD UP LARGE CIRCULAR COLONIES OF INDIVIDUAL 2-INCH DIAMETER PLANTS WHICH GET THEIR NAME BECAUSE THEY GO SLIPPY, LIKE SEAWEED, UNDER WATER. THE RIVER JELLY-LICHEN IS NOT ACTUALLY LIKE A JELLY. UNDERWATER IT FEELS NOBBLY LIKE A SEAWEED, MORE LIKE A LOT OF JELLY-BABIES.'

BETTY SMITH

RARE JUMPING SPIDERS IN EDINBURGH



Aelurillus v-insignitus ♂



Sitticus pubescens ♀



Neon robustus ♂
JS

In last year's Journal I mentioned briefly the discovery of a Spider new to Britain which had been collected and identified by a Swedish arachnologist attending the 17th European Colloquium of Arachnology in Edinburgh during July 1997. Previously known only from south Sweden, with a few records from Finland, *Neon robustus* is a small Jumping Spider (Family Salticidae) so closely related to our common *Neon reticulatus* that its presence in the British fauna had not been realised. Its preferred habitat appears to be scree slope and it was in such a site that the 1997 specimen was collected in Holyrood Park.

This discovery led to a recheck of *Neon* specimens in my collection taken from similar habitats in earlier years. Thus it was established that the 'new' species had been collected on Pirn Craig near Innerleithen in 1982 and in Holyrood Park in 1991. Another collector has a record of the species from the Great Sugarloaf, County Wicklow, and no doubt more records will appear following the imminent publication of this find in the Journal of the British Arachnological Society.

The dorsal surfaces of *Neon robustus* are basically yellow brown. The carapace is darkened around the eyes and has a thin dark margin. The abdomen is patterned with chevrons and pale dots. Overall body length about is 3mm.

During the summer of 1998 a local naturalist brought to my attention a much more photogenic Spider he had discovered running about on short turfed, stony ground above Adam's Ribs in Holyrood Park. With a body length of 4mm the male's black abdomen is prominently marked with a broad, central, light stripe; and with good eyes or a hand lens two roughly v-shaped light marks can be seen between the eyes at the anterior end of the dark carapace. The species is *Aelurillus v-insignitus*, another Jumping Spider which could only be classed as common in counties bordering the south coast of England. This record is the first in Scotland for over 100 years, the only earlier records being two by William Evans in 1895. He found the species on a railway embankment between Burntisland and Pettycur in Fife, and again at Kirknewton.

Having become quite fascinated finding and watching Jumping Spiders, the above mentioned naturalist looked at other rocky sites in the city, and soon found another Scottish rarity. *Sitticus pubescens* has a widespread distribution in England but its presence on Calton Hill is only the second record of the species in Scotland. The only previous record is from the island of Muck where it was found in 1983. *Sitticus* is a dark Spider with a pattern of light spots on both carapace and abdomen. The body length of the female is about 5mm.

I would like to thank Stuart Maxwell whose keen eyesight and enthusiasm led to the discovery of the latter two species.

JIM STEWART

Thousands of tired, nerve-shaken, overcivilised people are beginning to find out that going to the mountains is going home; that wilderness is a necessity....

JOHN MUIR



KINDROGAN

FIELD CENTRE

10th - 14th May	Special Needs In The Countryside
19th - 26th May	Spring Flowers on Colonsay
21st - 23rd May	Following in Queen Victoria's Footsteps Scottish Birds Spring Walks Mammal Society Workshop The Conifers of Scotland
28th - 30th May	Bats Introducing Mosses Natural History of the Highlands Stick Making The Peopling of the Glens
26th June - 3rd July	Mountain Flowers Archaeology of Orkney
3rd - 6th July	Natural History of the Highlands
3rd - 10th July	Summer Birds in Scotland
6th - 10th July	Sphagnum Mosses
10th - 17th July	Painting in Perthshire Mosses and Liverworts
17th - 24th July	Freshwater Algae
24th - 31st July	Gemstones and Geology
24th - 27th July	Introduction to Sedges and Rushes
27th - 31st July	An Introduction to the NVC
31st July - 7th August	Family Week
31st July - 3rd August	Terrestrial Bugs
3rd - 6th August	Wildflowers of Perthshire
7th - 14th August	Highland Drive Roads
14th - 17th August	Monitoring Butterflies
14th - 21st August	Spiders Tree Identification and Appreciation
21st - 28th August	Fungi Botanical Illustration
21st - 24th August	Introducing Lichens Photography for Biological Recording Introduction to Moths
24th - 27th August	Ferns
28th Aug - 4th September	Edible Fungi British and other Umbellifers
30th Aug - 3rd September	Moorland Management
4th - 7th September	Introducing Fungi Computing for Biological Recording Fungi and Beatrix Potter
7th - 11th September	
8th - 10th October	Autumn Walks Family Weekend Children's Courses Chain Saw Sculpture
16th - 23rd October	Scottish Birds and Scenery Walks Wildlife and Teashops Painting in the Autumn Landscape
22nd - 24th October	Scottish Mammals Introduction to Geology Willow Weaving Horn and Antler Craft Scottish Birds and Scenery Painting in the Autumn Landscape
29th - 31st October	Murder Mystery Weekend
Dates in March, April, August, October, November	Corporate Activities

Enochdhu, Blairgowrie PH10 7PG
Telephone: 01250 881433
e-mail: Kindrogan@btinternet.com



Kindrogan Field Centre is run by the Scottish Field Studies Association. As the Society has Corporate Membership of the Association, all NATS are entitled to discount on courses.

As well as attending weekend or whole week courses members can make a practical contribution to Kindrogan by joining the 'Friends of Kindrogan' and attending their Work Weekends. On these weekends Friends help with work on conservation, maintenance of nature trails, gardening and give general assistance indoors and out.

Work Weekends in 1999:

Spring Weekend	April	23-25th
Autumn Weekend	October	8-10th

Weekend courses cost £94 and most full week courses are £311.

Members are reminded that the Society is willing to consider providing financial help towards the cost of courses at Kindrogan. Anyone interested should apply to the Treasurer, Jackie Muscott.

The 1999 courses are printed on the left.

A CAREX WEEK AT KINDROGAN

Two companions, also NATS, and I spent a week at Kindrogan Field Centre in August learning about sedges and rushes. Our tutor Clive Jermy, author of the sedge key, was assisted by David Pearman. The enthusiasm and patience of the two tutors made this an interesting and enjoyable week.

Because of the location of Kindrogan we were able to find 40 of the 50+ Scottish species of sedges and most of the rushes and club-rushes likely to be seen in Scotland.

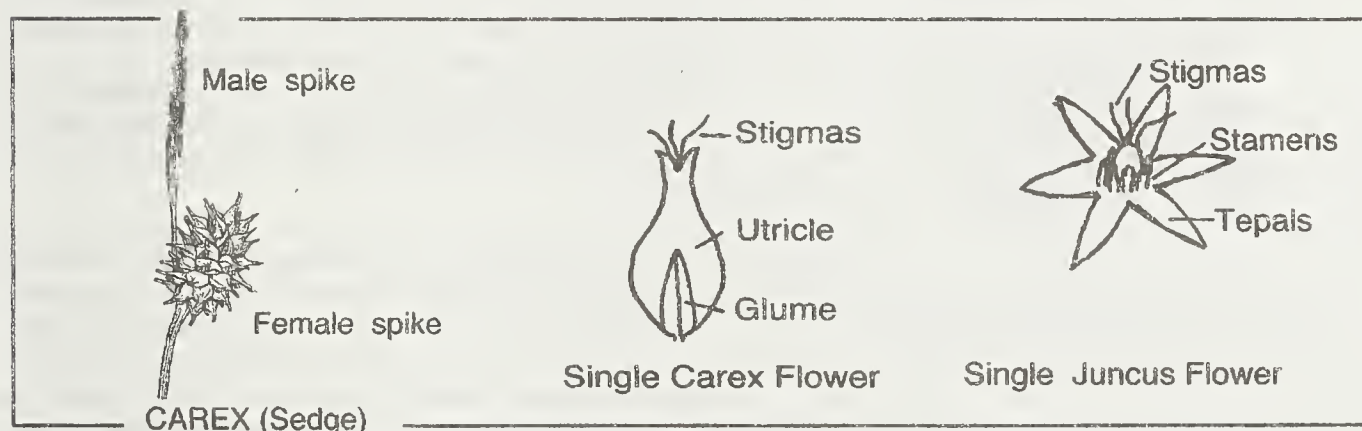
Sedges are the group of plants in the genus *Carex* which is in the family *Cyperaceae*.

Also in *Cyperaceae* are :-

Scirpus	Club-rush
Isolepis	Club-rush
Bolboschoenus	Club-rush
Schoenus	Bog-rush
Eleocharis	Spike-rush
Eriophorum	Cotton-grass
Kobresia	False-sedge

Our second day was spent on (and several times in!) Rannoch Moor, which, because of the exceptionally wet weather of '98, was particularly difficult to traverse. Thus more than one of us acquired a 'wellieful' of bog water. However there were lots of sedges to be found such as the Few-flowered Sedge, *Carex pauciflora*, well named as it had only a single spike of four flowers. The Bog Sedge, *Carex limosa* with its characteristically dangling female flowers had a great deal of the fungus Ergot growing on it. Only this species of sedge seemed to be affected. Our tutors found Alpine Rush, *Juncus alpinus*, easily overlooked by the novice.

A day was spent at the shore, observing species that are only found near the sea, such as Distant Sedge, *Carex distans*, False Fox Sedge, *Carex otrubae* and Long Bracted Sedge, *Carex extensa*. Curved Sedge, *Carex maritima* was not found, but we were told it grows in the bunkers on St Andrews Golf Course. Other *Cyperaceae* on the coast were Salt-marsh Flat-sedge, *Blysmus rubus* and Sea Club-rush, *Bolboschoenus maritimus* growing to a metre high. The common Salt-marsh Rush, *Juncus gerardii* was found, but *Juncus balticus* eluded us.



Rushes in the genus *Juncus* and Wood-rushes in *Luzula* make up the family *Juncaceae*. The flowers of *Juncus* and *Luzula* are similar, but the leaves of *Luzula* are hairy at least down the edges and this serves to distinguish the two genera.

The pond on the doorstep of Kindrogan was our first stop to look at Bladder Sedge, *Carex versicaria*, the leaves of which are folded in the shape of a W. At the edge of Marlee Loch was a beautiful tuft of Greater Tussock Sedge, *Carex paniculata*, standing about a metre high. In a swampy area we came upon a swathe of Northern Sedge, *Carex aquatilis* which is not found in England. It is blue-green on the upper leaf and shiny beneath. Fairly common was Hairy Sedge, *Carex hirta* easily recognised by the hairiness of the plant especially the leaf sheath and the utricle. The utricle is the fruiting body inside which the seed is formed.

Some sedges prefer the habitat at an altitude of 800+ metres and only grow at that height, therefore we clambered up the hill, on a very wet day, to our goal where we were rewarded by the sight of Rock Sedge, *Carex rupestris*. As its name suggests, it grows in rock crevices and can be recognised by its curly leaves described as 'pigs' tails'. The prize of the day was seeing Bristle Sedge, *Carex microglochin*, a rare sedge found only on the Breadalbane Hills in Britain.

Each evening, after dinner we had facilities in the lab to examine our collection under the microscope.

We came home full of enthusiasm and good intentions to continue our studies.

ENA GILLESPIE

Plants of the West

Last summer in Arran NATS members saw a number of plants which are found only in the west of Britain. These are plants which like an oceanic climate (warm and wet): they like plenty of rain and a warm relatively frost-free winter, with perhaps not too much hot summer sunshine. Probably the most spectacular of these western plants to be seen in Arran was the Navelwort or Wall Pennywort (*Umbilicus rupestris*) which festooned many damp rock faces. It gets both its English names from the thick round scalloped leaves, about the size of an old penny, with a navel-like dimple in the centre (where the stalk is attached beneath). Since this plant does like a bit of summer warmth it is on the northern edge of its range in Arran.

Two extraordinary little ferns are also to be found in Arran, though they require a bit of hunting for, since they are tiny, transparent, festooning damp shady rocks well away from the sun, and often mistaken for mosses. The Tunbridge and Wilson's Filmy Ferns (*Hymenophyllum tunbrigense* and *H. wilsonii*) like to be cool and wet at all times, so they are found mainly in the west, and most profusely in Scotland.

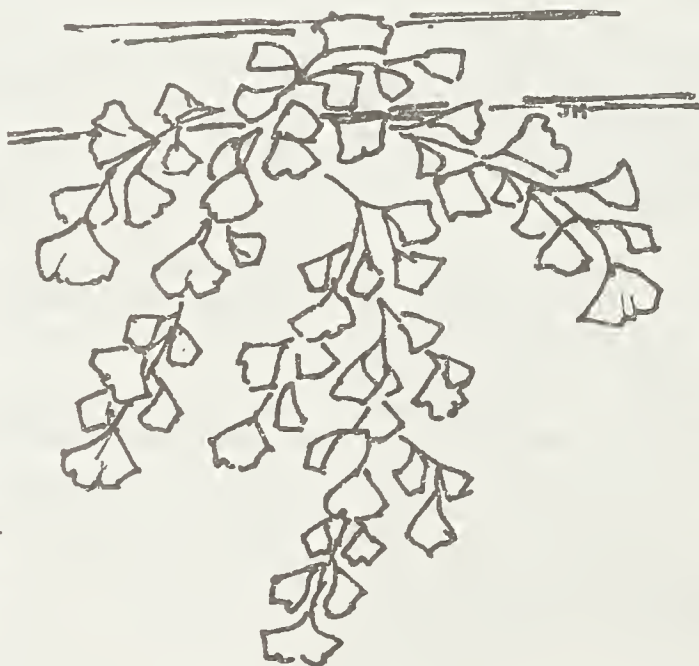


Hymenophyllum tunbrigense
Tunbridge Filmy Fern

Western Ferns

(more or less life size)

By contrast the Maidenhair Fern (*Adiantum capillus-venaris*) needs warmth and limestone rock as well as plenty of rain (it's more of a Mediterranean plant) so it doesn't get so far north. Its main sites in the British Isles are Cornwall and the West of Ireland, with a few sites on the west coast as far north as Lancashire. This beautiful and delicate fern is often used by florists.



Adiantum capillus-venaris
Maidenhair Fern

Other western plants grow in more open well-drained habitats such as rocks and sand. One of these is the English Stonecrop (*Sedum anglicum*), completely misnamed, since it is western rather than English. It's a pretty little white Stonecrop with a red calyx and purple anthers, found on seaside rocks all up the west coast from Land's End to Cape Wrath, but very rarely in the east. Another lover of western maritime rocks is the Rock Sea Spurrey (*Spergularia rupicola*). It looks quite like the ordinary Sea Spurreys, fleshy with a pink flower, but it grows in rocks and sea cliffs, rather than in salt marshes, and it's covered in small glandular hairs. It is found on the south and west coasts of Britain as far north as the Hebrides (but not on Arran), while in Ireland it grows all round the coast.

Sandy beaches in the west tend to be taken over by the Sea Radish (*Raphanus raphanistrum* ssp. *maritimus*) a yellow biennial related to Cabbages. We found some on Arran at Blackwaterfoot, together with the much rarer Isle of Man Cabbage (*Coincya monensis* ssp. *monensis*). This latter has a very curious distribution centred on the Isle of Man, stretching from the south of Lancashire to the Clyde Islands. Sheepsbit (*Jasione montana*) with its powder-blue, button-like flowers is a plant of rocks and dry grassland in the south and west, present on Arran but too tender for the north of Scotland. The beautiful little Spring Squill (*Scilla verna*) however, is made of sterner stuff being found on dry west coast turf as far north as the Shetlands; it's very rare in the east.

Many bog plants are found mainly in the west of Scotland, but that's chiefly because of habitat considerations - the best and most extensive bogs are found there. One little bog plant which definitely has a western preference is the Pale Butterwort (*Pinguicula lusitanica*). It's found in suitable bogs from Dartmoor northwards, but nowhere far from the west coast. The species name "*lusitanica*" actually means "Portuguese" but is here used in the sense of "far west".

There are not so many distinctly eastern plants. The most clear-cut example seems to be Purple Milk-vetch (*Astragalus danicus*), which is found on base-rich turf from Bedfordshire to Sutherland, mainly

coastal, especially in the north. (It's not uncommon in short turf along the Forth.) Sea Buckthorn (*Hippophae rhamnoides*) is another example - an odd one. It seems to be native only to a limited part of the east coast from East Sussex to central Scotland, but has been planted successfully in many other places including the west.

A number of southern plants are able to extend their range northwards in the eastern parts of Britain, and their requirements seem to be dry sandy soils with plenty of summer sunshine, in other words a somewhat arid environment. Plants like this include

a number of annual weeds such as Poppies (*Papaver rhoeas* and *P. dubium*), some Mediterranean plants like Hemlock (*Conium maculatum*) and some grassland plants such as Goatsbeard (*Tragopogon pratensis*) and Meadow Cranesbill (*Geranium pratense*). One would not expect to find water plants among this group, but the Greater Willowherb (*Epilobium hirsutum*) is very much an eastern plant in Scotland. The reason is obscure: either it's very intolerant of acidity or it just doesn't like too much rain!

JACKIE MUSCOTT

ARRAN WEEK - 20-27 JUNE

The venue was Lochranza, which is located in the north end of the Island, where Lyn Blades, Jean Murray and Margaret Perry had carried out very effectively, the difficult task of booking in approximately 40 members of the society in a variety of accommodations (4 cottages, 3 B & Bs, 2 hotels and a caravanette). This did make logistics somewhat difficult at times!

The Saturday was spent in travelling and settling in. A lovely day for a sail. It had been hoped to have accommodation in the Youth Hostel where Tony Church, the BSBI recorder, is the warden. Unfortunately, the hostel was fully booked.

As Ian McCallum was used to leading parties on Arran he was appointed excursion organiser for the week.

On the Sunday the main party set off to walk to the Cock of Arran. Bob and Betty Smith were with the main party at this point and explained that they were looking for the dragonfly, the Southern Hawker (*Aeshna cyanea*), which is a southern species which had been reported from Kintyre, and they hoped to confirm that it was also on Arran. Unfortunately, the species was not found, but Bob and Betty did find larvae of the Keeled Skimmer (*Orthetrum coerulescens*) in Glen Iorsa. Along the shore Bob dipped a small pool a few metres inland from the high tide line and showed the party an amazing number of dragonfly larvae including about 30 of the Common Darter (*Sympetrum striolatum*) and also larvae of the Large Red Damselfly (*Pyrrhosoma nymphula*). The Large Red Damselfly and the Gold Ring Dragonfly (*Cordulegaster boltonii*) were also seen on the wing.

After looking at Professor Hutton's Geological Unconformity on the Newton shoreline, the party visited the Fairy Dell which is noted more for midges, rather than fairies. At this point the 'walkingstick' brigade returned to Lochranza by the high level road, while the lucky 13 travelled on along the shore over the boulders to the Cock where lunch was taken. They passed Ossian's Cave and went on to Arran's only coal mine which was opened for a short time during the 'clearances', to give some employment to the dispossessed crofters. The main use of the coal

was to produce salt from the sea water.

The next stop was at the fossil tracks of the giant 'Centipede' (*Arthropleura*). This was an animal which could grow to six feet in length and became extinct about 280 million years ago. It was also an 'item' in television programmes by David Attenborough and more recently by Aubrey Manning. It was an interesting walk with many flowers and birds including the Pale Butterwort (*Pinguicula lusitanica*), both Common and Atlantic seals, and the Black Guillemot or Tystie. All 4 groups, some walking only a few hundred yards, others covering a distance of about 9 miles, had a very interesting day.

On the Monday the evocative Machrie Stones were explored. There are about seven stone circles which date from about 3800 BC. On the site there were information boards which proved helpful and interesting. After lunch the cars were moved on to the King's Cave car park. In the afternoon the cave was explored. King's Cave is situated on the raised beach and was probably formed about 6,500 years ago on the Main Rock Platform. In order to access the cave the key to the gate has to be organised through the local Tourist Board. Inside the cave, wall inscriptions were examined, some of which are probably of Iron Age vintage. Also found and examined were the 'ogham' inscriptions which are a code of letters probably of Irish origin from about the time of the introduction of Christianity. There was no sign of Bruce's spider, but it was thought that the legend should be accepted. Some people walked on to Blackwaterfoot and saw an interesting variety of flowers on the way.

Tony Smith, a very active local botanist, who knows the Island well and writes a weekly botanical article for the Arran Banner, had agreed to lead the party on a local outing. Unfortunately, due to a poor weather forecast for the Tuesday this outing was postponed until Thursday. The Tuesday was made a free day and most of the members made for Brodick to visit the Museum or the Castle. The castle grounds and gardens are stunning - even in the rain! For some the highlight of the day was a superb view of two Short-eared Owls in flight on the moor overlooking Glen Sannox.

Wednesday was a more promising day. Cars were taken to Kildonan and the party walked along the shore to the small car park at Mansfield. This is a delightful stroll with big skies and superb seascapes. Seals were seen on the reefs and waders were active, feeding on the shoreline. Jackie Muscott was very helpful and instructive in discussing and identifying the seashore vegetation. After lunch the cars were taken to Lagg from where a sortie was made to the chambered cairn at Torrylin. After examining the chambered cairn which, when excavated, contained a flint scraper and human and animal bones, the party made its way down to the shore where they walked along the beach to where the Torrylin Water flows into the sea. After looking at waders and duck the group retraced their steps along the shore to where the Oyster Plant (*Mertensia maritima*) normally grows. This is a plant of the shingle beaches which are subject to storm action which can destroy colonies. It is a deep rooted plant which can survive and colonise new areas. A search was carried out but there was no sign of the colony. Tea and cream scones in the garden of the choice Lagg Hotel offered some compensation. Those who wished to see the plant were shown a small colony on the way back to Lochranza. It was a memorable moment for one lady who went on her knees and said 'thank you' to the plant for being in flower!

On Thursday the party met Tony at Blackwaterfoot. Some cars were left at Drimiginar, and the party took the remainder of the cars to Glenree on the Ross Road. From this point Tony led the members north along a route which brought them to Loch Cnoc an Loch. This proved fairly adventurous as one member of the party almost disappeared into a bog! From the loch the route went over Beinn Tarsuinn and thence back to the cars at Drimiginar. The walk gave superb high level views and on the last leg of the walk Tony showed the party the roadside flowers which was particularly enjoyable as Tony has such expertise, enthusiasm, and local knowledge.

Audrey Walters, who is the local bird recorder, agreed to lead an evening excursion for members round what she terms the Golden Triangle, which is an area near Blackwaterfoot and Shiskine. The highlight of the evening was excellent views of a Barn Owl.

MACHRIE MOOR STANDING STONES

The group walked a mile across the moor to see the remarkable complex of standing stones and 5 stone circles, attributed to the early Bronze Age, i.e 2300 - 1600BC.

Circle No. 5 came first with a double circle of granite stones - the inner a circle of 8 stones - the outer an ellipse. It is known as Fingal's Cauldron.

Circle No.4 is small and has only 4 granite stones less than 1 metre high with a short cist? - the centre.

Circle No. 3 has one very tall upright stone, and three stumps of red sandstone.

Friday was to be a finale, with several raptors to be identified in Glen Catacol. Unfortunately it was showery which made the bird watching disappointing although a member listed a Redstart which caused local interest. Although Eagles, Short-eared Owl and Hen Harrier were all seen and reported it was the Redstart which caused the main interest. Although the weather was showery, some of the party continued up into Gleann Diomhan to the endemic Arran Whitebeams Reserve. The reserve was formed to protect the local rarities, *Sorbus pseudofennica* and *Sorbus arranensis*.

En route we saw a large collection of Round-leaved and Long-leaved Sundew (*Drosera rotundifolia* and *D. longifolia*) and many small Butterworts (*Pinguicula vulgaris*). Those who took the path towards Loch Tanna found a number of Lesser Twayblade (*Listera cordata*) growing beneath the heather. Near the reserve a dead cat was found which was of interest. In other parts of Scotland a cat in a mountainous area could well be a Wild Cat. On Arran, because it's an island and because of the Ice Age, there are no Foxes, Stoats, Weasels, Wild Cats, etc. (Although the name Catacol makes you wonder about the presence of the Wild Cat). There was some speculation as to the possibility of a small population of Wild Cats surviving in the wilder parts of Arran. Some intrepid members continued over the col and returned to Lochranza via Gleann Easan Biorach and were rewarded for their exertions by seeing the resident Eagle.

Saturday was going home day which comprised packing, vacating accommodation, buying goodies in the Brodick creamery shop, and for a lucky few, being shown the Tunbridge Filmy Fern (*Hymenophyllum tunbrigense*) in Glen Rosa, prior to boarding the ferry. Fortunately the group was far enough east to miss the 'thunderstorms and tornado' which hit Glasgow that day.

In conclusion, thanks must be accorded to Tony Smith, Audrey Walters and Jackie Muscott who prepared a detailed botanical list of her outings. The bird list for the week was sent to Audrey and the botanical list to Tony Church.

IAN C. MCCALLUM (With additions)

Circle No. 2 has three very tall impressive upright stones about 5 metres high. Of the fallen slabs, one is cut in two - the halves shaped like millstones. Circle No. 1 is elliptical and has alternate granite and sandstone slabs - in all eleven stones.

A modern excavation has yet to be undertaken. Machrie Water runs nearby and the site is surrounded by great hills, making it a most evocative area.

CONNIE STEWART



A VISIT TO ARRAN



An island with so many advantages, such a variety of scenic delights from the wild grandeur of the north to the bays fringed with pale sand and scattered with black rocks, is bound to leave every visitor with lasting memories. I had the privilege of having been made welcome to join the happy band of the Edinburgh Natural History Society whose knowledge and enthusiasms - botanical, ornithological, geological and archaeological - enlivened many excursions.

On this holiday Lochranza was the home base from which, every day, some expedition set forth properly furnished with cars, cameras and walking gear suitable for the terrain and the vagaries of the weather.

A visit to the ancient stone circles of Machrie Moor situated on a bleak hillside told of a prehistoric past long before the Christian era.

On another occasion we went on an ornithological trip to survey the green meadows near Blackwaterfoot, territory of the Corncrakes but they were more elusive than the stones. We neither saw them nor heard the raucous call which local villagers assured our leader seemed to bounce from wall to wall, of their homes. At dusk we went in search of a Barn Owl which was eventually located through binoculars on its habitual perch on a cliff edge.

The charm of one journey I found by the sandy shore where two mallard ducks inspected industriously every little curve of the land while a cormorant stood on a rock spreading out its wings to dry, for all the world like a preacher exhorting us to praise the joyous gift of setting sun and wind-ruffled water blue, green and lavender, stretching towards the far mainland.

Those of us who profited by the local council's placing of comfortable wooden seats could see the outgoing tide from them. On one occasion the stationary rocks seemed to move and one by one, seals slithered from their resting-places into the water.

In Glen Catacol, when the more active intended a longer expedition, a few of us less agile were left to our more sedentary delights by the shore. There was the joy of rediscovering Bog Asphodel (*Narthecium ossifragum*), Lousewort (*Pedicularis sylvatica*), Heath Bedstraw (*Galium saxatile*), Sundew (*Drosera rotundifolia*), Thyme (*Thymus serpyllum*) and English Stonecrop (*Sedum anglicum*) intermingled and the rarer Heath-spotted Orchid (*Dactylorhiza maculata*).... a glorious mixture brightened by a scatter of Tormenill (*Potentilla erecta*) and clumps of Hawkweed (*Hieracium* sp.)

As one who has long given up walks such as to the Fairy Dell or wilder journeys to distant hill slopes, the gardens such as those in Brodick Castle grounds provided the gentle pleasures of cultivated borders of bright flowers - blues, reds, yellows and whites interspersed by pillared roses and surrounding smooth lawns.

The organisers of this short week's holiday must be congratulated for its planning. Many interests were catered for. As a non-car driver of advanced age being transported by private car between Edinburgh and Ardrossan and indeed every trip throughout the week, was a tremendous boon and assured me of a completely untroubled holiday and the happiest of memories.

LILLIAS S.F. CLARK

LOCHRANZA

HAS 89 DAYS WHEN THERE IS NO SUN - IN SHADOW ALL WINTER
AND HAVE LIGHTS ON ALL THE TIME

Our Visit to Arran

As such a recently joined member of the Edinburgh 'NATS' I feel diffident about contributing to the Journal, but having been asked to do so I welcome the chance to put on record something of what made the outing to Arran such a memorable experience for me.

I had not been to Arran before and found its lovely blend of sea and shore, glens and hills greatly appealing. With a special interest in wild flowers there was much to see and with Jackie at hand to instruct and generously share her knowledge there was so much to be learned. Our first day's walk took us along the rocky coast to Fairy Dell and back by a path higher up the hillside. Of the many plants to be seen Pale Butterwort (*Pinguicula lusitanica*) was for me a rare find and also of special interest the quantities of Navelwort or Wall Pennywort (*Umbilicus rupestris*) growing in profusion on wayside rock faces.

Another day an exciting find for me was Oyster Plant (*Mertensia maritima*) which we looked for in vain in a number of shore situations but were eventually directed to a location close to a road we had frequently motored along! Two other memorable finds were the Arran Whitebeam (*Sorbus arranensis*) and the Tunbridge Filmy Fern (*Hymenophyllum Tunbrigense*). I had not thought to see either of the Arran species of Whitebeam as they grow at a height beyond my reach.

We were however told of one specimen of *Sorbus arranensis* growing quite near to Lochranza. We found it without difficulty, though growing on the far bank of a wide and rushing burn. However Jackie, undaunted, took off her shoes and socks and steadied by my stick, waded across to take photographs. The Tunbridge Filmy Fern we were also directed to and found on a rock in woodland near the foot of Glen Rosa.

Later that day we had a picnic lunch on the shore near Glen Sannox where we were charmingly entertained by a pair of Pied Wagtails who had obviously discovered that there were good things to be had from picnickers! Later we walked and clambered along the shore below cliffs where we hoped to find Wilson's Filmy Fern (*Hymenophyllum wilsonii*). With this we had no success, but we found more Tunbridge Filmy Fern and as this is the rarer of the two, it was good to find more of it and the walk remains a lovely memory.

During our week in Arran we were fortunate on the whole with the weather. Greatly adding to the enjoyment of a newcomer were the friendship and welcome, the help with transport and the smooth running arrangements which must have involved much fore-planning. The Lochranza Hotel was welcoming and comfortable and generous in its provisions for breakfast and pub suppers.

PERSIS AGLÉN



Oyster Plant
Mertensia maritima

EXCURSIONS 1998

Saturday	January	17	Peebles Circuit	G	Mrs Jean Murray
Saturday	February	21	Mosses and Microscopy	ML	Miss Heather McHaffie
Saturday	March	14	Union Canal	G	Miss Sandra Stewart
Saturday	April	18	Water of Leith		Mrs Mary Robertson
			Roseburn to Stockbridge	G	
Saturday	May	2	Fife Circuit	B,O	Mrs Mary Clarkson
Saturday		9	Kinnoull Hill, Perth	Squirrels	Mr A Godfrey(Ranger)
Saturday		16	Holy Island	B,G	Miss Jackie Muscott
Saturday		23	The Haining/Selkirk Circuit	B,G	Mr George McDougall
Wednesday		27	Newhailes	B,G	Ms Toni Hubbard (Ranger)
Saturday		30	Oldhamstocks Circuit	G	Mrs Margaret Watson
Wednesday	June	3	River Esk , Loanhead	G	Miss Margaret Perry
Saturday		6	Yellowcraig	G,Ladybirds	Mrs Sarah Adamson
Wednesday		10	Oatridge	G	Mr David Adamson
Saturday		13	Inchcailloch, L. Lomond	G	Mr Ian McCallum
			With Glasgow NATS		
Wednesday		17	Crichton Glen	B,O	Mrs Mary Clarkson
					Ms Lizzie Collier
Saturday	20-27 June		LOCHRANZA, ARRAN	WEEK	
Wednesday	July	1	Uphall Station	B	Mrs Mary Robertson
Saturday		4	Gore Glen and Arniston	G	Mrs Mary Robertson
Wednesday		8	Bonaly	G	Mr M Jones (Ranger)
Saturday		11	Glen Sax	G	Mr & Mrs Perry
Wednesday		15	Red Moss Reserve	Gr	Mr Graham Swift
Saturday		18	Belhaven Bay, Dunbar	S	Mr David Jones
Wednesday		22	Mortonhall Arboretum	T	Mrs E Farquharson
Saturday		25	Kilham, by Kirknewton	B,G	Mr Graham Swift
Wednesday		29	Newhailes	B,G	Mrs Eunice Smith
Saturday	August	1	Baddingsgill	G	Mr Michael Osborne
Wednesday		5	Flotterstone	Spiders	Mr Jim Stewart
Saturday		8	Greenlaw Circuit	G	Mr Duncan Gill
Saturday		15	John Muir CP	O	Miss Molly Woolgar
Saturday		22	Glenhighton	G	Mr Michael Osborne
Thursday		27	MV Gardyloo		Mr Jim Stewart
Saturday		29	Aberlady Bay	O,B	Mr Bill Clunie
Saturday	September	5	Woodhall Dean	Ge	Mr W Baird
			& Garleton Hills		
Saturday		12	Heriot and Carcant	B,G	Mr George McDougall & Mr David Adamson
Saturday		19	Traquair	F	Mrs E Farquharson
Saturday		26	Saltoun Wood	F	Mr M Richardson
Saturday	October	3	Happendon Wood	F	Mr S Alcorn
Saturday		10	Stoneyburn Bing	F	Dr Adrian Newton & Miss Jackie Muscott
Saturday	November	7	Almondell & Calder Wood		Miss Mary Konik
Saturday	December	5	Musselburgh Lagoons		Mr Charles Pountain

EXCURSION CODES

B Botany
Ge Geology
O Ornithology

F Fungi
Gr Grasses
S Sea shore

G General
ML Mosses & Liverworts
T Trees



EXCURSIONS

1998

PEEBLES CIRCUIT

Date 17th January
Leader Jean Murray

A large group (26) were eager to get out after the excesses of Christmas. We walked along the Tweed from King'smeadows, delayed by a group of small trees almost in flower but defying identification. These were later identified as Cornelian Cherry (*Cornus mas*).

The weather deteriorated just at lunchtime and we cooied doon behind a dyke in the wood to try to avoid the sleet. On the way back some adventurous people explored the old railway tunnel. We had a very enjoyable walk in spite of the weather.

MOSSES and MICROSCOPY

Date Saturday, 21st February
Leader Heather McHaffie

A group of us met at Blackford Hill and walked across the field together, heading for the mossy riverside. The very common moss *Rhytidiadelphus squarrosus* was in the grass. It has slender red stems and the leaves curve back, giving the squarrose name. There were patches of a very common moss on the mortar of the wall. *Tortula muralis* has short stems with tongue-shaped leaves and the nerve continues as a hair point. As the leaves had dried they had twisted and the hair points made little grey tufts. Each capsule that contains the spores was upright with a yellow stem, or seta.

Some of the creeping mosses in the woodland were less easy to distinguish, but there were lots of clumps of the dark green *Mnium hornum*. This moss can grow in quite deep shade and consists of many single shoots with long narrow leaves in groups or carpets. It is often abundant in woodland. It was noticeable how the shaded area under the trees by the river was thickly covered in mosses, on both the rocks and the ground.

There were thallose liverworts growing beside the river. *Conocephalum conicum* down by the water has shiny, dark green, ribbon-shaped stems, or thalli, with a "dotty" look on the surface. It has a pleasant smell when squashed giving its common name of scented liverwort. It is very often found in humid shaded areas beside water. Further along was another thallose liverwort, *Lunularia cruciata*, narrower and brighter green, but characterised by the half-moon shaped cups which its name indicates, containing little

roundish gemmae that can grow into new plants. This liverwort can be found in gardens, too.

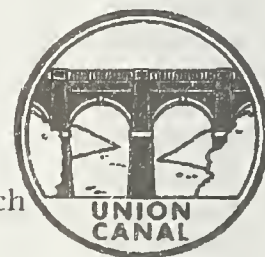
We spent the morning by the river, and then went back to the Water of Leith Centre to use the microscopes in the afternoon. A very common moss occurred there on the wall beside the road. *Grimmia pulvinata* makes very neat little hairy cushions and the young short-stemmed capsules curve over and seem to be trying to bury themselves in the leaves.

The microscope session was enjoyable and some people borrowed microscopes to use at home. There are still some available. A good book to begin with is E. V. Watson's **British Mosses and Liverworts** (CUP 3rd Edition). While there are over a thousand bryophytes in Britain there are several very attractive common ones which are not difficult to identify and are frequently seen.

HEATHER MCHAFFIE

UNION CANAL, FALKIRK

Date Saturday, 14th March
Leader Sandra Stewart



It was good fun travelling by train to a NATS outing for a change; well, the younger ones among us thought it was a change, but we were reminded that the NATS always used to travel by public transport before we all got our own little tin boxes!

There was a large turnout and the tailenders in the queue for the one station too were left behind and not seen for the rest of the day.

This was an easy walk along the Union Canal to its end because it is a 'contour canal', keeping to a height of 240 ft. along its length. It was opened in 1822 but began to decline rapidly when the railway opened alongside it in 1842. All that work for 20 years! However the British Waterways Board have obtained Millennium funding to clean up the route from Edinburgh to Glasgow along the Union and the Forth and Clyde Canals, removing and circumnavigating obstacles to make it an important recreation amenity and a wildlife corridor. The purpose of this outing was to have a look at the changes proposed at the Falkirk end and we were joined by a lady from the Union Canal Preservation Trust to tell us of the plans.

We walked to the end, formerly Port Maxwell. The canal was linked to Port Downie about a mile away on

the Forth and Clyde Canal by a series of 11 locks each dropping 10 feet, but passengers had to disembark and carry their luggage down the steep slope. The plan now is to extend the canal here and join it to the Forth and Clyde, using a huge Ferris wheel, which will be built on a derelict factory site. This area is planned as a 'honeypot' area, drawing crowds of tourists to spend their money in the many attractions to be built in the immediate area and providing jobs for the locals. A lot of imagination is needed to envisage what it will be like, and several murmurs (more than murmurs!) of disapproval were heard from our peace-loving group.

It was then lunchtime and we sought the shelter thoughtfully provide by Antoninus. It is interesting to note that his Wall, the Union Canal and the railway follow the same route. Smart chap that Antoninus!

We had no high hopes for botanical interest so early in the year, but our day was surely made when Patrick, with the sharp eyes of a 5 year old, found a rare Eyed Ladybird (*Anatis ocellata*), while the rest of us were concentrating on food! There were also some Larch lady birds.

There was masses of White Butterbur (*Petasites alba*) in flower along the canal; the Larches too were in flower and Barren Strawberry (*Potentilla sterilis*). Hopes of spring.



Eyed Ladybird

We finished a pleasant walk with a stop in the park above the Canal to admire a superb view across the Forth Valley to the big hills beyond.

SANDRA STEWART

WATER of LEITH ROSEBURN TO STOCKBRIDGE

Date Saturday, 18th April
Leader Mrs Mary Robertson

After a fortnight of unseasonable wintry weather which included Easter week, we were favoured with a dry sunny afternoon for the first walk of the Summer programme.

Twenty four people met at Roseburn Cliff, more than half being members of the public alerted by our publicity and attracted perhaps by the central meeting point. This particular stretch of the Water of Leith is a very good wildlife habitat with open haughs interspersed with deep gorges flanked by large private gardens where trees, plants and insects thrive, providing food and shelter for birds, urban foxes and other animals. It is in fact a wildlife corridor through the town. It is also an area of great geological, architectural, historical, industrial and archeological interest. In this connection I would recommend the book "The Water of Leith", published in 1984 by the Water of Leith Project Group, containing a collection of essays about the river by various

authors. To add to our interest we were fortunate to have a gentleman with us who remembered the Dean Village mills.

The walk began at Roseburn Cliff where we were surprised to see a cormorant flying down river. We caught up with him later on. A quick survey of the cliff slope revealed Honesty (*Lunaria annua*), Green Aikanet (*Pentaglottis sempervirens*) and a few Bluebells, Spanish variety, I think, with a familiar mixture of Ramsons (*Allium ursinum*), Few-flowered Leek (*A. paradoxum*) and Japanese Knotweed (*Fallopia japonica*) beside the water. On open ground further along we found Sweet Cicely (*Myrrhis odorata*), Cow Parsley (*Anthriscus sylvestris*) and Butterbur (*Petasites hybridus*). A small patch of the graceful Wood Anemone (*Anemone nemorosa*) was on the right of the path.

Himalayan Baisam (*Impatiens glandulifera*) is also well established; its red-veined leaves were just appearing. Below the viaduct we found Garlic Mustard (*Alliaria petiolata*), food plant of the Orange Tip Butterfly which would be nice to see here. We found a Field Maple (*Acer campestre*) amongst native Rowan, Elder, Hawthorn and flowering Gean. Wrens sang loudly and drake Mallards loafed on the river, the ducks sitting on eggs well hidden in the grasses, no doubt. Woodland plants included Tuberous Comfrey (*Symphytum tuberosum*), Wood Avens (*Geum urbanum*), Red Campion (*Silene dioica*) in flower and White Deadnettle (*Lamium album*). Leaves of the introduced Leopard's-Bane (*Doronicum pardalianches*) were also noted.

Approaching the large weir we saw the cormorant again seated on a small island of accumulated debris and vegetation. A Grey Heron was spotted in the tall grasses at the other side while a pair of delightful Grey Wagtails trotted up and down the concrete slope, picking up larvae from the water. A fisherman told us that the river had been stocked with trout so the two big birds obviously knew where a good meal was available. Leaves of Meadow Cranesbill (*Geranium pratense*) were noted in the grass beside the path; on the wall were Figwort (*Scrophularia nodosa*), St. John's Wort (*Hypericum perforatum*) and Oxford Ragwort (*Senecio squalidus*).

It was cool in the shade of the slope behind Donaldson's College for the Deaf, originally a hospital, its grounds flanked by stone pillars each topped by an ornamental thistle. Ash, Elm, Horse Chestnut and Sycamore trees planted here cast dense shade so there is little ground vegetation apart from Ivy scrambling everywhere. Young trees have been planted on the other side of the river. Looking over the wall we were lucky to see a Dipper. We watched a Treecreeper on the opposite bank climbing up an Aspen tree; Great Tit, Blue Tit, Robin and Chaffinch were also seen. Below the wall was Hart's Tongue Fern (*Phyllitis scolopendrium*), Coltsfoot (*Tussilago farfara*) and a scrap of Golden Saxifrage (*Chrysosplenium oppositifolium*). A garden Hebe seedling (*Hebe salicifolia*) had rooted itself in the mortar and was growing well.

Beyond Donaldson's the path crosses the water by means of a footbridge and continues along the west bank under Belford Bridge until Dean Village is reached. In the mud below the footbridge we saw Pink Purslane (*Claytonia sibirica*) and Hogweed (*Heracleum sphondylium*) in flower. Shrubs screen the Hilton Hotel, formerly the site of a sawdust mill making wood flour for linoleum and explosives. The mill came to a dramatic explosive end itself in 1971, an event recalled by our guest. We managed to identify most of the shrubs: Berberis, Cotoneaster and Hebe species, a flowering Snowy Mespilus (*Amelanchier ovalis*) and a Daphne (*Daphne mezereum*).

A robust, fleshy plant with aromatic leaves defied identification. One lady however knew its German name and its uses, so following this clue I turned up **D K Herbs** where on Page 55 I found an illustration of the leaf I had taken. Further reading described its yellow flowers and herbal uses of the plant as the lady had explained. Jackie Muscott and I agreed that it is Lovage (*Levisticum officinale*), no doubt a self-seeded garden escape.

We now entered the gorge leading to Dean Village, peaceful now but what a hive of noisy activity when the mills were working. Parts of the steep slope are unstable and have been shored up by heavy planks to keep the path clear. Many trees, festooned heavily with Ivy, are leaning at a threatening angle and there is little ground cover to stabilise the soil. Here we found a pretty white Comfrey in flower (*Symphytum orientale*) and Jackie spotted an Alder which looked different from the ones we know. From leaves which she took home she was able to identify Red or Oregon Alder (*Alnus rubra*). Their diagnostic feature is that the outer margins of the hairy leaves are turned under so they look like a neat hand-rolled hem on a fine lawn handkerchief. On the opposite side of the path we saw the only Oak, a sapling with pointed buds which we did not identify.

Continuing past the weir in Dean Village we came to the old ford, the original crossing from the old town, where a turnpike toll was paid. Beside the path we found Borage (*Borago officinalis*) and Yellow Archangel (*Lamiasstrum galeobdolon*) and one plant of Giant Hogweed (*Heracleum mantegazzianum*).

We left the river and climbed up to Well's Court, an experiment in early community housing, and then crossed the old Dean Bridge coming to Baxter's Court and Miller Row before we continued towards the Telford Dean Bridge (1832) which looks very impressive when seen from below. The path is once more east of the river. The rock formation below the bridge reveals a sloping layer of sandstone sandwiched between shales where graptolites are found, evidence of earth movement millions of years ago. At the foot of Bell's Brae the stone walls are covered with Ivy-leaved Toadflax (*Cymbalaria muralis*), Wall Rue (*Asplenium ruta-muraria*), Maidenhair Spleenwort (*A. trichomanes*), Wall Lettuce (*Mycelis muralis*), and Wild Strawberry (*Fragaria vesca*) grows on top of what was Lindsay's Mill near the Information Board.

The path now runs along the foot of large communal gardens below the New Town terraces, passing St. George's Well (1810) now boarded up and St. Bernard's Well, Edinburgh's Spa! A few Lime trees (*Tilia x europaea*) and other ornamentals grow in the gardens. Beside the path we found Crow Garlic (*Allium vineale*), Fringe Cups (*Tellima grandiflora*) and Ivy-leaved Speedwell (*Veronica hederifolia*). I should add that Willows grow all along the banks of the river. Near St. Bernard's Bridge we noted an unusual shrub, Loquat (*Eriobotria japonica*) and two diseased Elms. We dispersed at Saunders Street, once the site of the Fire Station, having taken our time to cover this fascinating stretch of Edinburgh's river. A full list of species has been sent to our Recorder.

MARY ROBERTSON

REFERENCES:

Auld Reekie Walks No.1 Edinburgh's River by Christine Oldfield

DK Herbs Pocket Encyclopaedia by Lesley Bremness

A Field Guide to the Trees of Britain & Northern Europe by Alan Mitchell

MARY ROBERTSON

FIFE CIRCUIT

<u>Date</u>	Saturday, 2nd May
<u>Leader</u>	Mary Clarkson

This was such a pleasant walk that I couldn't believe my ears when I realised that I heard myself offer to write it up for the Journal! What a pity I didn't write some notes when I got home. Nevertheless however little natural history detail is now contained in this article the abiding memory of the day is one of discovery of a new place in an area which seems to have managed to retain a lot of the feeling of a country way of life; and the pleasure of being with friendly and knowledgeable companions.

We met at Silversands car park and set off in a straggling party up the road on a fine May morning. As my companion and I caught up with the main part of the group we started uphill between delightful old straggly hedges. We heard many bird songs and saw a Yellowhammer perched nearby - so close that we could inspect his paintbox colours. I recalled sadly how built-up the area now is where Yellowhammers used to be seen frequently on Sunday afternoon walks in my childhood.

The next major item of note was more of sociological than natural history interest. A few of us diverted (perhaps trespassed?) into a nearby field to get a closer look at an abandoned cottage. I hope that my memory serves me right for the details. It was a most interesting and well-built structure with living quarters in the central block and an adjacent cowshed heated by a chimney on one side of the building. Also integral, although entered from the outside were

separate quarters with stone stalls for the animals. Outside the building was a stone trough at one side and a stone kennel at the other. Set apart from this main building was a small and well-appointed dairy. The rural scene was completed by a reasonably sized garden and a small orchard. Although there were some signs of electrical supply we felt that we had stepped back in time and wished we knew more of the history of the place and the people who had spent their lives there.

We rejoined the main party and made our way gently up the hill. In Humble Wood we were walking in dappled sunshine and treading on spring flowers - Wild Hyacinth (*Hyacinthoides non-scripta*), Wood Sorrel (*Oxalis acetosella*), Celandine (*Ranunculus ficaria*), Pink Purslane (*Claytonia sibirica*), Green Aikanet (*Pentaglottis sempervirens*). In a wetter area were Marsh Marigold (*Caltha palustris*), Bog Stitchwort (*Stellaria uliginosa*) and Marsh Violets (*Viola palustris*). As we made our way through the scattered trees and reached the top of the hill we were rewarded by warm sunshine and stunning views over the Forth.

One of our number was able to watch a Great Spotted Woodpecker make its way up a tree. In the old woodland another was attracted by a large nest strategically placed in a low branch of an old tree but although the spirit was willing and eager that curiosity should be satisfied the flesh proved to be too weak!

The day ended with a pleasant walk along Forth shoreline where we saw some interesting plants, including Pellitory-of-the-wall (*Parietaria judaica*), Winter Heliotrope (*Petasites fragrans*), Tansy (*Tanacetum vulgare*), Fringe-cup (*Tellima grandiflora*) and Pick-a-back plant (*Tolmiea menziesii*).

It was a joy to be part of such a delightful varied outing and we were all grateful to Mary Clarkson who planned and led the walk.

EUNICE MCA. SMITH

RED SQUIRRELS on KINNOULL HILL

Date Saturday, 9th May
Leader Mr A Godfrey, Ranger

A noisy group of us set off through the woods with the Ranger which gave sufficient warning to any *Sciurus vulgaris* to make themselves invisible. It was a beautiful spring day and the trees were in that wonderful state where their leaves in vivid green were unfurling like butterflies wings.

There was evidence that Squirrels had been there by the partially eaten fir cones. Kinnoull Hill is made up of a number of andesite lava flows and the magnificent view from the summit looks down on the rift valley. Looking seaward, different levels of land can be seen, resulting from the uplift when the land was relieved of the great weight of ice and water as the Ice Age ended.

Everyone heard a Green Woodpecker and one persistent member managed to see it. A Blackcap was also heard together with Willow and Garden Warblers. Among the trees seen were Douglas Fir, Lawson Cypress, Whitebeam and Cherry Laurel. We were surprised to see Vetch growing in a hollow tree trunk; also seen were False Agrimony (*Agrimonia agrimonoides*), Yellow Figwort (*Scrophularia venalis*) in flower, Chickweed Wintergreen (*Trientalis europaea*), Woodruff (*Galium odoratum*), Lords and Ladies (*Arum maculatum*), Leopard's-bane (*Doronicum pardalianches*), Lady's Mantle (*Alchemilla* sp.), Solomon's Seal (*Polygonatum x hybridum*), Mullein (*Verbascum* sp.), Common Comfrey (*Symphytum officinalis*) and Bugle (*Ajuga reptans*). We also had some slight success when one person on returning alone through the wood, had a magnificent view of a Red Squirrel posing on a low branch and another two people also saw one. The day was after all a great success and we were able to finish with tea outside a cottage in warm sun.

JANET WATSON

HOLY ISLAND

Date Saturday, 16th May
Leader Jackie Muscott

After several days of thick mist the skies finally cleared, and we set off for Lindisfarne with a full bus and bright sunshine overhead. But on Holy Island the mist still lingered, thin enough to allow some warmth to penetrate, but enshrouding the island in an aura of mystery and romance.

Most of the party walked from the village to the castle and then on to the dunes, but others stopped to explore the abbey ruins and the castle itself. The abbey was founded by St Aiden whose statue now stands in the ruins, but achieved fame through one of his successors, St. Cuthbert. St. Cuthbert was largely an absentee bishop, preferring to spend his time as a hermit on the Farne Islands, but when he died his body was brought back to Lindisfarne, and was greatly revered, attracting many pilgrims. Their path across the sands at low tide is now marked by poles for the benefit of those retracing the pilgrims' steps today.

The castle is no longer a ruin, having been remodelled by Lutyens early this century. Perched on a volcanic outcrop, it's a real fairytale castle, and was used in the Polanski film of Macbeth.

The houses of the village provide shelter from the sea breezes, and vegetation on the old walls was well advanced. Apart from the common wall-ferns (mainly on the shady side), there were colourful plants of Mediterranean origin. The ferns included Wall Rue (*Asplenium ruta-muraria*), Maidenhair Spleenwort (*A. trichomanes*) and the rather less common Black Spleenwort (*A. adiantum-nigrum*), with Ivy-leaved Toadflax (*Cymbalaria muralis*) crawling amidst them.

Wallflowers (*Erysimum cheiri*) and Red Valerian (*Centranthus rubra*) provided the colour, both preferring plenty of sun.

Pellitory-of-the-wall (*Parietaria judaica*) provided a dark contrast at the base of the walls. It's a non-stinging member of the Nettle family with dark green leaves and tiny flowers, mainly found near the coast in the north. The English name is a corruption of the Latin.

More Wallflowers and Red Valerian were growing on the rocks below the castle, along with Snow-in-Summer (*Cerastium tomentosum*), the rockery plant, which is fast becoming established in the wild. There was also a small amount of Meadow Saxifrage (*Saxifraga granulata*) with beautiful white flowers and kidney-shaped leaves, generally found in lime-rich grassland.

Beyond the castle we found some over-wintering leaf-rosettes of Henbane (*Hyoscyamus niger*) a sinister-looking plant once used as a pain-killer and sedative (perhaps by the monks).

We next passed an expanse of freshwater known as the Lough. Most of the usual waterfowl were nesting there: Mallards and Swans, Coots and Moorhens, Tufted Duck and Blackheaded Gulls, while Terns were bathing in the water. By the shoreline we noted Shelduck, Ringed Plover, Oystercatchers, Fulmars and assorted Gulls, while inland there were Wheatears, Lapwings and Pied Wagtails, with Swallows flitting overhead.

We were early for many of the dune plants, but we saw an interesting selection of insect life, the highlight being a number of newly-emerged Cinnabar Moths (*Tyria jacobaeae*). These beautiful little moths have scarlet underwings and black forewings with a scarlet bar and 2 spots.



Cinnabar Moth
(*Tyria jacobaeae*)

They mainly fly at night, and lay their eggs on Ragwort (*Senecio jacobaea*), which the larvae eat. Ragwort is poisonous to grazing animals but not to these caterpillars, which store the poisons to make themselves obnoxious. Their bright colours (orange and black rings) serve to warn off predators.



We were too early for Cinnabar caterpillars, but we did see another type of caterpillar munching away at Ragwort. This was the Garden Tiger (*Arctia caja*), which appeared to be equally immune to the poisons, and which hatches into another colourful moth. Also seen were the large hairy caterpillars of the Fox Moth and one of the Eggars.

In the dunes we were delighted to find Scarlet Pimpernel (*Anagallis arvensis*) along with Cowslips (*Primula veris*), Early Forget-me-not (*Myosotis ramossissima*), Lambs Lettuce (*Valeriana lacustris*), Common Storksbill (*Erodium cicutarium*), assorted Buttercups (*Ranunculus spp*) and Silverweed (*Potentilla anserina*).

But perhaps the most widespread of the dune plants was an introduction, the Pirri-pirri bur (*Acaena novae-zelandiae*).

This has leaves rather like those of Silverweed, and innocent-looking spherical white flower-heads, but in fruit these flower-heads develop long barbed spines (4 round each seed), which attach themselves to any passing

hairy animal. This method of dispersal has proved amazingly successful: seeds are thought to have been brought from New Zealand in fleeces, the waste from which (wool shoddy) was used as fertiliser.



Pirri-pirri Bur

(*Acaena novae-zelandiae*)

Nearer the shore were Sand Sedge (*Carex arenaria*), Thrift (*Armeria maritima*), Scurvy-grass (*Cochlearia officinalis*), Buckshorn and Sea Plantain (*Plantago coronopus*, *P. maritima*) and Sea Sandwort (*Honkenya peploides*), while here and there we found leaves of Rest Harrow (*Ononis repens*), Viper's Bugloss (*Echium vulgare*) and Houndstongue (*Cynoglossum officinale*).

A few members of the party got as far as a pond in the dune slacks with Crested Newts, and others noted a Lizard near the wall where we had lunch. There was even something for the mycologists: a fine fairy ring (*Marasmius oreades*) and a crop of the edible white St George's mushrooms (*Tricholoma gambosa*) just a little late for the Saint's Day (April 23).

The mist began to lift as we left the island, but we had all had an excellent day out.

JACKIE MUSCOTT

THE HAINING, SELKIRK

Date Saturday, 23rd May
Leader George McDougall

When I attended Selkirk High School many years ago, I often wondered what was hidden behind the large arched gateway in the West Port, Selkirk. Now, thanks to George McDougall's outing my curiosity is satisfied and the members of our Society had an interesting walk through the Haining Estate.

The plain classical house was built in 1794 in a beautiful lakeside setting with interesting statues by Canova overlooking the lake. There is a stable block with Doric columned entrance decorated with a horse's skull overhead (1819). This building was converted to residential accommodation in 1983, and adjacent to it lie the bear and wolf enclosures - one owner had served in Russia. Within the grounds lie the long-demolished medieval Selkirk Castle but still standing, though roofless, is an old square doocot.

The grounds of the Haining are a naturalist's paradise as it has been left to nature for a few years and there are many varied habitats. Common Wintergreen (*Pyrola minor*) grows on a footpath by the lakeside, Great Spotted Woodpeckers fly overhead and many types of fungi grow in the woodlands.

The botanists found many plants of interest and in the afternoon some of us had an exercise on how to find one's way through overgrown woodland!

Many thanks to George for arranging the outing and also to Mr Nimmo Smith the owner of the Haining.

CHRISTINE CAMPBELL

OLDHAMSTOCKS CIRCUIT

Date Saturday, 30th May
Leader Mrs Margaret Watson

I was happy to accept the offer from the Excursion Committee of a much earlier date than usual for our customary ramble over some of the Lammermuir foothills - no tall nettles, thistles and bracken to push through; no flies and midges; early summer flowers and plenty of birdsong; I would keep to farm-tracks or open hillside; there would be only one stile to cross and the walk would be under 5 miles. Fine, we'll mark it E1 in the programme.

The 'recce' before the excursion was in perfect weather, but the days before 30th brought chill winds, low cloud, drizzle, and on the Friday, almost unremitting rain, and it was still damp and very misty when nine of us gathered outside Oldhamstocks Church. 'Intrepid' and 'mad' were among the adjectives ascribed to the group by my husband (who was then going back home). We potted in the churchyard for a few minutes, noting the stone-slab roof of the burial vault with the date 1561 included in the heraldic carving, and the little stone watch-house built to thwart the body-snatchers in the 18th century. Then we strolled along the village street to the path leading down through part-wild/part-cultivated woodland, past the ruins of a mill, and across the burn flowing fast and high.

It was a steep climb up the opposite hillside to the Woollands Farm, where there is now a large Natural Water bottling plant. The mist grew thicker as we climbed gently upwards on streaming farm tracks and muddy field-edges so - no beautiful views, no butterflies, no Cuckoo, no warm nutty scent from the masses of Gorse in full bloom. We did see Lark and Lapwing, and picked up some eggshells, almost certainly predated rather than hatched, of Pheasant and Partridge. This was no day for hands-and-knees botanising, and we saw no rarities among the bedraggled flowers, but we did linger along the edge of a large belt of conifer woodland admiring the beautiful display of the male flowers. Tentatively identified were Scots, Black and Lodgepole Pine, European and Japanese Larch and Noble Fir.

Crow Hill at 300m. was the highest point of our walk, so now it was downhill on a rough farm-track with a gushing stream beside it, down Sisters Cleugh to Yearn Hope, where, our optimism about dropping below the cloud level having ebbed, we took our lunch under the dubious shelter of the (fenced) pine wood edge. The drizzle did ease, however, when we entered the main valley of Oldhamstocks Water, and anticipated an easy level walk back to the village. But, before long, it became clear that the valley floor now contained not just one burn with convenient fords but a whole series of streams, ponds and marshes. One wellington-shod member of the group actually managed to wade across to the

north side; the rest of us made our way back up the valley, across Yearn Water (where we had come down from the hills) and further on towards Aikengall until we found a spot where we could jump the burn and squelch muddily across to a track leading steeply up the valley-side. This eventually turned northward, so by climbing a fence or two, we resorted to sheep-tracks running roughly parallel with the valley until baulked by extensive thickets of gorse. One of our group refused to be daunted and vanished down the hillside, while the others squeezed through yet another fence, and eventually reached Stottencleugh Farm. The gorse-defying member was still missing, but after some back-tracking along and above the valley, the search party found her safe and sound, and, reunited we left Stottencleugh on a surfaced road. The ford I had crossed dry-footed a week before was now under a torrent I would not have cared to drive a car through, but mercifully at this point the raised footbridge allowed us to continue.

It began to rain in earnest for a short while, but there were no further dramatic incidents as we returned to Oldhamstocks. I did however acquire on the way a good large *Agaricus macrosporus* and a bag of excellent Watercress as contributions to supper. And, despite the weather, the comparative lack of natural history interest and the extra exertions involved, the cheerful company all agreed that it had been An Adventure, and the route well worth travelling in more propitious circumstances.

MARGARET WATSON

P.S. We were luckier than we knew! The next day brought relentless heavy rain and I was told that 1.5 inches had been recorded at Dunbar.

WARNING: people should take care gathering Watercress in places where the water flow is very slow and there are sheep grazing. Infection with a parasite (liver fluke) is possible. JM

RIVER ESK and HAVERAL WOOD

Date Wednesday, 3rd June
Leader Margaret Perry

This was the first dry day for some time so about 16 people assembled in the car park at Loanhead to take advantage of the fine evening. The river was fairly full and the path somewhat muddy but that did not detract from the pleasure of being out.

The leader of the group knew of nothing unusual or rare in the area but asked for anything out of the ordinary to be recorded.

Our circular walk started down the steep road leading to the River Esk where the high walls provided some interest with Ivy-leaved Toadflax (*Cymbalaria muralis*), Herb Robert (*Geranium robertianum*), Willow Herbs, Wall Rue (*Asplenium ruta-muraria*) and other ferns. Further down the road the verges were colourful

with Tuberous Comfrey (*Symphytum tuberosum*), Ramsons (*Allium ursinum*), Hedge Woundwort (*Stachys sylvatica*) and Himalayan Balsam (*Impatiens glandulifera*); unfortunately the latter was taking over some areas.

At the entrance to the path along the river there was a weir in full spate and a number of the more common plants were noted such as Rough Chervil (*Chaerophyllum temulentum*) and Hedge Mustard (*Sisymbrium officinale*). It was a typical urban type of vegetation, with a mix of natural and introduced species such as Fringe Cups (*Tellima grandiflora*) and Pick-a-back Plant (*Tolmiea menziesii*) growing in clumps along with patches of Pink Purslane (*Montia sibirica*), Pyrenean Valerian (*Valeriana pyrenaica*), Large Bittercress (*Cardamine amara*) and Leopardsbane (*Doronicum pardalianches*). One area along the path was almost like jungle with Giant Horsetail, Common Butterbur (*Petasites hybridus*) and Common Valerian (*Valeriana officianalis* agg.).

The walk left the river and joined the main A768 back to Loanhead and on the way the roadside verge provided some interest with Shining Cranesbill (*Geranium lucidum*), Ladies Mantle (*Alchemilla vulgaris* agg.), Bugle (*Ajuga reptans*), Hedgerow Cranesbill (*Geranium pyrenaicum*), Wood Avens (*Geum rivale*) and Common Bistort (*Polygonum bistorta*) to name but a few.

Though there was nothing unusual or rare recorded, everyone agreed it was a very enjoyable evening.

GLENISE COOK

YELLOWCRAIG

Date Saturday, 6th June
Leader Sarah Adamson

A wet day in Edinburgh did not deter some members from travelling to the East Lothian Coast. At Yellowcraig, as it seemed an unlikely day for finding ladybirds, the outing was re-designated to general interest.

In hope of a drier afternoon we set off through a mixed woodland area. Shortly, realising the rain had stopped we drifted out to open areas. A plant-rich area has been successfully robbed of its turf to patch the nearby golf course. Here, our insect highlight of the day turned up: a rare Orange Ladybird which is typically found on Sycamore and in old woods. It had been hiding from the rain underneath a Sorrel leaf.

Behind the dunes on volcanic rock a close examination of the short turf turned up botanic treasures including Moonwort (*Botrychium lunaria*), Rue-leaved Saxifrage (*Saxifraga tridactylites*) and Fern Grass (*Catapodium rigidum*).

A clamber over the volcanic plug of Yellowcraig took us back to the car park and lunch.

A dry start to the afternoon encouraged us towards the sea side through the dunes. Recent high seas and winds had deposited uprooted shore seaweeds and larger kelps. With the restart of rain we followed a path through the Sea Buckthorn which had bare twig tips with signs of late bud opening on otherwise fully clothed branches. After some searching we found a path through a conifer plantation for our return. The ladybird count for the day was one Orange-spot and two 7-spots. Generally the day was varied, looking at all aspects of natural history.

The majority of the group found its way into Dirleton for tea in the church hall and a look around gardens open under the Open Gardens Scheme.

SARAH ADAMSON

OATRIDGE COLLEGE to BINNY CRAIG

Date Wednesday, 10th June
Leader David Adamson

The Wednesday of the outing to Binny Craig was a very wet day. It had rained at lunchtime, had been raining at 5pm and had continued off and on until the time the outing was scheduled to start. Oatridge College was a bit noisy; Scotland had incurred another glorious defeat in a World Cup game and the students were celebrating a bit boisterously, so it was pleasing in a way to leave the car park and walk up the College farm road toward Binny Craig.

Our group of 5 was joined by 2 latecomers who had watched the football to the bitter end. Neither, however had brought their tartan tammies with orange wigs, waterproofs being a more sensible attire.

We plodded up the wooded ridge following a one-time nature trail. Dennis, eagle-eyed, or perhaps owl-eyed on this occasion, noticed a large bird which flew away from us. Near its former roost was a beautiful red-brown young Tawny Owl which watched us from about 20 yards away. It finally flew to join its parent in the wood.

Binny Craig would have been too wet and slippery to climb safely, so we strolled below it as the rain again began to fall. The rest of the outing was a retreat to the cars as the rain fell upon us. If it was tears for Scotland's defeat, there were an awful lot of them.

DAVID ADAMSON

INCHCAILLOCH, LOCH LOMOND

Date Saturday, 13th June
Leader Ian McCallum

A soaking on the Lammermuirs one Saturday and a wet, cold walk along the East Lothian coast on the following Saturday made listening to the weather forecast on Saturday, 13th June essential. Rain was to proceed northwards from Galloway but should

not reach the Central Belt until the afternoon, then a glimpse of blue sky over Edinburgh, and the decision was made to go. Happily the rain proceeded more slowly than forecast, not reaching Edinburgh until the evening and so for once, the members arrived home dry.

The outing was led by Ian McCallum and we were joined by some members of the Glasgow Natural History Society. The group of fifteen sailed from Balmaha to North Bay, Inchcailloch (island of the cowled or old woman) and then followed the nature trail. Ian made this such an interesting walk covering geology, history, industry, plants and wildlife.

The trail led through tall Oak trees to the Alder Marsh and then climbed past a rock face where the underlying layer of conglomerate sandstone is exposed. Climbing on, we saw a tiny islet called Kitchen, believed to be a crannog, built about two thousand years ago and then we went on up steps and along boardwalks to the summit, 75 metres above the level of the loch. Here we enjoyed a splendid view of the highland mountains. The trail now led downwards, through woods to a sandy beach and then upwards again to a burial ground before finally descending to North Bay.

There were once small farms on the island and traces can be seen of the boundary furrows dividing cultivated land into strips. A circle of stones and a small pit are the remains of a corn-drying kiln. Near the loch shore are the ruins of buildings which once made up Inchcailloch Farm. The lease of this farm was not renewed after 1770, but during the First World War one of these buildings became a stable for the horses used to haul timber to the water's edge. After 1770 the arable land was planted with Oak trees which were managed for the production of oak bark used for leather tanning. The stripped timber was taken to Balmaha where, using the process of wood distillation, vinegar, dye-stuffs and other products were made. The Alder trees were coppiced; their water-resistant wood was highly valued for the making of wooden clogs.

On our visit many of the woodland plants were past. Only shade-loving plants such as Common Cow-wheat (*Melampyrum pratense*) were still in flower under the leaf canopy. As the sandy beach was very busy with picnics and barbecues we moved along the shore-line to a small rocky point for lunch finding on the way "chicken of the woods" - *Laetiporus sulphureus*. Here, out of the shade, were growing a few specimens of the Common Spotted Orchid (*Dactylorhiza fuchsii*) and a Stone Bramble (*Rubus saxatilis*) showing a few flowers. At the lunch spot the decision had to be taken - did one eat in the wind or did one eat with the midges! One member shared a rock with a Leech! As we ate, a female Goosander with many tiny young swam past, the babies cadging a lift on her back.



Inchcailloch lies on the Highland Boundary Fault and the trail led from the conglomerate sandstone region to an outcrop of Serpentine rock with the corresponding change in vegetation to plants preferring alkaline soil. The path now led upwards to what used to be the Buchanan Parish Burial Ground and to the foundations of a 13th century church dedicated to St. Kentigerna (possibly the cowled woman). On the final stretch we passed by an Oak tree which housed a colony of Daubenton bats - this had been the first sighting of these bats in Scotland.

On landing back at Balmaha we were disappointed to find that an interesting wetland site had become a car park, only a remnant remaining. Here we found the Wood Clubrush (*Scirpus sylvaticus*), Yellow Flag (*Iris pseudacorus*), a very large and beautiful patch of Marsh Cinquefoil (*Potentilla palustris*) and the rare Scottish Dock (*Rumex aquaticus*) found only at Loch Lomond. Hopefully this small remaining marsh will not vanish under concrete.

We returned to the cars but the outing was not quite over as, in the Visitor Centre, one member found the rather rare Striped Ladybird. We expressed our thanks to Ian for such an interesting and enjoyable day.

MARGARET WHITE

CRICHTON GLEN

Date Wednesday 17th June
Leaders Mary Clarkson
 and Lizzie Collier

It was a little ambitious to think that we could do justice to an interesting area such as Crichton Glen in the short time afforded by an evening outing. However, we did manage to have a look at the main habitats and see a reasonable number of species. The valley is U-shaped and steep sided and drained by the upper reaches of the River Tyne although "drained" is perhaps not the best way to describe a valley floor consisting of one of the largest marshes in the Lothians! The top edge, at least, is calcareous as indicated by the abundance of Yellow Oat-grass (*Trisetum flavescens*) and Quaking-grass (*Briza media*).

From the car park at the Church we walked along the top edge of the valley to Crichton Castle and then steeply downwards on a rough path through an area of Blackthorn scrub with Primroses peeping out from the undergrowth. We bore leftwards following a stream, where we noticed Hard Shield Fern (*Polystichum aculeatum*) as well as Male and Lady Fern (*Dryopteris filix-mas* and *Athyrium filix-femina*), and across marshy ground to reach an area of mixed native woodland. This included Hazel, Oak, Birch, Ash and Holly and was wet enough underfoot to have growing Yellow Iris (*Iris pseudacorus*) and a good variety of sedges including Wood, Remote, Glaucous and Carnation (*Carex sylvatica*, *remota*, *flacca* and *panicea*). We returned to the main valley floor by an

Alder wood where a branch lying on the ground bore the distinctive blue-green staining of the fungus *Chlorosplenium aeruginascens*. This was formerly used in marquetry to produce Tunbridge ware. Between the Alder wood and the main marsh we found an odd-looking sedge with a very long lower bract and empty utricles. This was *Carex x boenninghausiana*, the cross between Remote Sedge (*C. remota*) and Greater Tussock Sedge (*C. paniculata*). We skirted the large area of marsh below the castle, where there was an abundance of Greater Tussock Sedge, and climbed steeply up to return to the cars. It was disappointing not to see many birds but perhaps we were rather late in the evening in starting out - and had our eyes too firmly directed downwards to the vegetation!

MARY CLARKSON

UPHALL STATION

Date Wednesday, 1st July
Leader Mary Robertson

Many changes have taken place at Uphall Station since our last visit nine years ago (12th July 1989). More houses have been built, the railway line upgraded with ballast and a stout fence and the parking area extended for commuters' cars. The old dirt paths have been made into cycle tracks and street lighting installed. These improvements have meant some disturbance, several plant species have disappeared and the pond I remember has also disappeared. In the car park however we found Long-headed Poppy (*Papaver dubium*), Cut-leaved Cranesbill (*Geranium dissectum*), Field Pepperwort (*Lepidium campestre*) and surprisingly in an unused corner, Common Spotted Orchid (*Dactylorhiza fuchsii*). The Japanese Rose hedge (*Rosa rugosa*) remains with Birch, Elder, Ash and Hawthorn behind it.

Beside the path leading from the station, members found Tansy (*Tanacetum vulgare*), Goatsbeard (*Tragopogon pratensis*), both Common and Russian Comfrey (*Symphytum officinale* and *S. x uplandicum*) as well as Dame's Violet (*Hesperis matronalis*). Grasses in full flower had Hawkweeds, Trefoils, Eyebrights and Red Bartsia (*Odontites vernus*) among them. Larch and Pine have been planted. We descended steps to arrive at a meadow. Here we found an uncommon plant which we decided was Hemp Agrimony (*Eupatorium cannabinum*) which is new to the area.

Leaving the path we entered the meadow to examine the flora in a ditch along its border. It was choked with Watercress (*Rorippa nasturtium-aquaticum* agg) along the whole length but there were rushes and sedges too, Brooklime (*Veronica beccabunga*), inevitably, and one single Northern Marsh Orchid (*Dactylorhiza purpurella*). The field behind had many lovely spikes of the Common Spotted Orchids (*D. fuchsii*). Liz Pilling, Mary Clarkson and Betty Mitchelhill worked at the grasses, rushes and sedges, producing an impressive list, which included the tiny Bristle Club

rush (*Isolepis setacea*) I have a note that it was also found on our last visit under its old name *Scirpus setaceus*. Rushes included *Juncus effusus*, *J. inflexus*, *J. conglomeratus*, *J. articulatus* and the small *J. bufonius* (Toad Rush). Sedges were identified as *Carex flacca*, *C. ovalis*, *C. nigra*, *C. panicea* and *C. hirta*.

Leaving the meadow we had a quick look at a shale bing, a dry habitat, the top of which was yellow with Mouse-ear Hawkweed (*Pilosella officinarum*) and where early in the season the sides had been covered with yellow Coltsfoot (*Tussilago farfara*) judging by the quantity of leaves. Weld (*Reseda luteola*) was also present.

The group then moved on to a wet area below the railway line which is mostly Willow carr and scrub Oak. Here was found Flag Iris (*Iris pseudacorus*), one plant of Dotted Loosestrife (*Lysimachia punctata*) a garden escape, Water Avens (*Geum rivale*) en masse, lots of Marsh Thistles (*Cirsium palustre*) among other plants associated with a wet habitat, such as Marsh Willowherb (*Epilobium hirsutum*), Meadowsweet (*Filipendula ulmaria*), Eleocharis and Glyceria species. Thread-leaved Water Crowfoot (*Ranunculus trichophyllus*) was also found. By this time it was late evening and the midges were biting so we turned back, noting on the way wild rose species in full flower and Woody Nightshade (*Solanum dulcamara*) most of which bore white flowers.



Iris pseudacorus

It was a lovely sunny evening. We had heard Yellowhammer, Whitethroat, Willow Warbler, Blackcap, Linnet and Skylark, while Swifts, Swallows and House Martins had been flying overhead. We had seen a Damselfly and a Butterfly - a male Meadow Brown. Giant Horsetail (*Equisetum telmateia*), hiding under honeysuckle was noted, having been missed on the way out. It had been a rewarding excursion.

MARY ROBERTSON

ARNISTON

Date Saturday, 4th July
Leader Mrs Mary Robertson

The outing to the grounds of Arniston House, near Gorebridge, was arranged by kind permission of the owner, Mrs. Dundas-Bekker, who greeted the party of eighteen on our arrival on a fine sunny morning. The house itself is of modest size and of perfect proportions, designed by William and John Adam in the 1750s for Lord Dundas. To the north-east it

overlooks parkland with distant views of Edinburgh and Crichton Church. Our path led to the south-west where the grounds slope downhill through semi-formal parkland to Arniston Glen. The grounds offered a wide variety of habitats to the delight of the dedicated botanists, who compiled an extensive plant list.

After ambling through the park, admiring several bushes of Portugal Laurel (*Prunus lusitanica*) which were coming into flower, a Japanese Maple (*Acer palmatum*) and a rare Katsura tree (*Cercidiphyllum japonica*), we followed a path through relatively unkempt woodland alongside the Purvis Burn. The burn was crisscrossed by a number of small bridges built from stones obtained from the old Parliament House. Stones from the original 17th century Tower House have recently been used to construct a splendid grotto on higher ground in the glen. Some magnificent old trees, probably planted in the early 18th century, were of special interest. Amongst them were examples of Western Hemlock (*Tsuga heterophylla*), the Himalayan Cedar, the Deodar (*Cedrus deodara*), Yew (*Taxus baccata*) and Holly (*Ilex aquifolium*). Three Giant Sequoias (*Sequoiadendron giganteum*), Norway Spruce (*Picea albes*), Douglas Fir (*Pseudotsuga menziesii*) and a giant Scots Pine (*Pinus sylvestris*) featured in another glade further along the path. Noted in the vegetation beside the burn were wild Angelica (*Angelica sylvestris*), Water Figwort (*Scrophularia auriculata*) and Brooklime (*Veronica beccabunga*). The path then led through a marshy plain beside the South Esk river and uphill to a natural meadow where we took an extended lunch break amid blooms of Lesser Stitchwort (*Stellaria graminea*), Crosswort (*Cruciata leavipes*), Field Forget-me-not (*Myosotis arvensis*), Germander Speedwell (*Veronica chamaedrys*) and Self-heal (*Prunella vulgaris*). We returned uphill towards the House, meeting with Eunice and Dennis Smith en route, who had spent the day searching for the main party.

The rain came down in earnest and we departed with the firm intention of returning to visit the interior of Arniston House when it is open to the public. An unexpected treat at the initial meeting point on the A7 road, at the south end of Shank Bridge, was a host of Common Spotted Orchids (*Dactylorhiza fuchsii*) growing in full bloom on the banked verge of the road.

MARGARET PERRY

GLEN SAX, PEEBLES

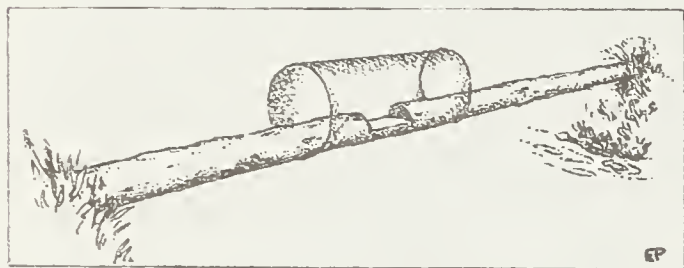
Date Saturday, 11th July
Leaders Eileen and Eric Perry

Twenty or so members arrived in Peebles for the walk and by arrangement with the owner we were able to park our cars in the Glen. The weather was ideal for our activities.

As we drove into Glen Sax a large bird of prey with a white head was sighted. This took us all by surprise and we were unable to identify it. Maybe an Osprey?

Small Heath butterflies were numerous. We walked along the valley floor with hills on either side. Juniper grew on the screes. As we progressed beyond the abandoned Glen Sax Farm buildings we encountered many small burns which gave members opportunities for practising their water jump techniques. Illustrated below is a strange device which we found but were unable to identify. An open-ended wire mesh cylinder about one foot long was fixed to a pole across the water.

WHAT COULD IT BE ?



Among the birds seen were Wheatears, Swallows, Herons, Buzzards, Curlews, Common Sandpipers, Lapwings, Oystercatchers, Pied Wagtails and a Kestrel's nest containing young in a Scots Pine. Carrion Crows were everywhere. Jim Stewart rescued a sheep found lying on its back.

It was a lovely day for flowers. Among the most interesting were Hairy Stonecrop (*Sedum villosum*) a nationally scarce plant but relatively common in East Lothian and the Borders; and a much smaller variety of Marsh Marigold (*Caltha palustris*) than is normally found.

EILEEN AND ERIC PERRY

RED MOSS GRASS EVENING

Date Wednesday, 15th July
Leader Graham Swift

Eight members gathered at Threipmuir Car Park for the annual Grass Evening. Being held a month later than previously offered, there was a greater display of grasses in full flower. After a brief explanation of the grouping of grass inflorescences into spikes, spike-like or branched, with or without awns, we admired in the corner of the car park, a stand of Tufted Hair Grass (*Descampsia caespitosa*). Its tall, silvery purple panicles are borne above dark green, heavily ribbed and sharp-edged tufted leaves. Along the roadside, a dense community of purple Yorkshire Fog (*Holcus lanatus*) added a splash of colour almost as vivid as the Ragged Robin (*Lychnis flos-cuculi*) behind.

The roadside offered a good collection of lowland grasses, including the occasional Meadow Fescue (*Festuca pratensis*), its large panicles bearing many-flowered spikelets. Another less common fescue was noted on the heathland near the start of the S.W.T.

boardwalk: the awnless Fine-leaved Sheep's Fescue (*Festuca tenuifolia*). Dominant in this area was another fine-leaved grass: Wavy Hair Grass (*Descampsia flexuosa*), its silvery-purple panicles akin to its larger cousin. In the blanket bog area of the boardwalk grew, at the relatively low altitude for a moor grass of 260m (850ft), Moor Mat Grass (*Nardus stricta*) and the purple flowered Purple Moor Grass (*Molinia caerulea*). At the far end of the boardwalk, in a pool of shallow water, was a dense colony of the aquatic Floating Sweet Grass (*Glyceria fluitans*), with handsome long, narrow, awnless spikelets on curved branches.

A total count of 22 lowland, heath and moorland grasses surprised the group, as did the attractiveness of the intimate mix of grasses, spiked, spike-like and branched.

GRAHAM SWIFT

BELHAVEN BAY, DUNBAR

Date Saturday, 18th July
Leader David Jones

In weather that was sadly typical of this miserable summer, 9 members met up at the Linkfield car park of the John Muir Country Park and headed out across the saltmarsh and the dunes to reach the more sheltered east-facing beach of Belhaven Bay. Botanical and some entomological interest on the crossing was considerable, but once on the sandy shores of the Bay we hunted for the mostly-hidden fauna of the beach itself.

Small holes of various sizes indicated the presence of innumerable Sand-hoppers - or *Gammarids* - which were also to be found sheltering under damp clumps of seaweed on the tide-line. Small flies and a few larger ones were also legion on the upper shore and despite the strong breeze, seemed able to fly low over the surface of the sand.

Sieving sand, from the recent high-tide mark down to the lower shore, showed that there is a population, sparse unfortunately, of Ragworms (*Nereis sp.*) and *Nephtys sp.*, Sea-slaters (*Naesa bidentata*), and an occasional bivalve mollusc (e.g. *Venerupis pullastra*).

It was, of course, more difficult in the field to demonstrate the presence of the microscopic Copepoda, that live on and among the sand grains, but even without digging, there was clear evidence of the presence of Lugworms, and it was even possible to gain some indication of their size by noting the distance between the 'head' end and the 'tail' end; i.e. the depression and the cast. Some considerable interest was generated by examining and identifying the tide-line wrecks of bivalve mollusc shells. Some shells came from bivalves inhabiting the lower shore or below low-tide mark, while others provided indications of having come from neighbouring beaches. Among these were Mussels, Cockles, Otter shells, Cyprinids, and even Oysters, some of which may of

course date back to the days when Oysters were a food of the common people, and formed huge beds in the Firth of Forth.

On the whole, the weather wasn't too unkind; a couple of short showers and intervening clear periods ensured that we donned and doffed weatherproof clothing more than once*, but for temperature, well, it was more like April or October than July. As someone commented: 'I think it was warmer in February this year'.

DAVID JONES

*Known in the trade as a 'cocoa' day - cagoules off, cagoules on again! Ed.

MORTONHALL ARBORETUM

Date Wednesday, 22nd July
Leader Elizabeth Farquharson

After an interval of 14 years the ENHS revisited the small Arboretum at Mortonhall which is known to so few. Prior to the first visit in 1984 Janet Raeburn spent many hours there methodically identifying the trees, the majority of which are conifers. Fortunately her list had been placed in the Society records for which we were immensely grateful as the task of re-identifying the trees was formidable. However her list gave no indication of where individual trees were growing.

With the help of members and after numerous dogwalks, a tree route was finally planned, giving the approximate position of the more interesting and unusual trees. Copies of the route were distributed when we gathered in the parking area opposite the Caravan Park. As we followed the route we passed behind Mortonhall House and turned up round the side of the house to the road. From there we could see the Icehouse and some fine parkland trees that are outwith the Arboretum.

Our route took us in an anticlockwise direction and involved many stops to look at the trees in detail, and to confirm (and in one case correct) the identification. Quite often one meets a fox when walking through the trees but he was not in evidence on this particular evening.

All the trees on Janet Raeburn's list were found, except for a Tulip Tree and an Atlas Cedar. A few common trees have been added. At the end of the route there was considerable discussion over the identity of a Weeping Lime which did not conform with any of the descriptions in Mitchell. It has since been identified by Alistair Scott, an authority on the trees of Edinburgh, as *Tilia petiolaris* or Silver Pendent Lime.

ELIZABETH FARQUHARSON

Elizabeth's route through Mortonhall Arboretum is available from the Society - Elizabeth or the Secretary.

THE SILVER PENDENT LIME at
MORTONHALL ARBORETUM

This tree, *Tilia petiolaris*, has not been found in the wild and its origin is obscure. Competent authorities think it is probably a form of *T. tomentosa*, the Silver Lime of south-east Europe and south-west Asia; others think it may be a hybrid. 'A rose', as the man said, 'by any other name'. Whatever its origin, it must be propagated by grafting. It is usually on a stock of Broad-leaved Lime.

Most graft-unions are clearly visible and over head height. This is the case on the Mortonhall tree which at 90ft high and over 11ft round, nearly isolated and in its prime, is about as good a Silver Pendent Lime as you will see in Scotland or almost anywhere else. One of the oldest, planted in 1842 in the Cambridge Botanic Gardens is, alas, no more; another still overlooks Magdalen Bridge, Oxford and the goings on there each May morning. They can be found sparsely across Edinburgh, immediately identifiable by the cascades of silver-backed leaves. The flowers are amongst the latest of the Limes at the end of July, massed and very fragrant.

As a young man I met Miles Hadfield on a number of occasions and then and now have a huge admiration for his acute observation and determination to check everything himself. This is what he has to say about *T. petiolaris* and bees - a question too often dealt with summarily:

'In some seasons, but by no means every year, many bees appear to be overcome by some narcotic effect of the nectar. While stupified they are often attacked and killed by various enemies, but the nectar itself does not seem poisonous. This effect is surprisingly variable, and may even be dependent on the individual tree or its situation. Apiarists are of the opinion that when it occurs the value of the nectar collected outweighs the comparatively small number of bees lost.'

ALISTAIR SCOTT

KILHAM, NORTHUMBERLAND

Date Saturday, 25th July
Leader Graham Swift

On one fine day in summer '98, 15 members left Edinburgh by coach for a new destination: the hamlet of Kilham, nestling in the northernmost foothills of the Cheviots. Three other members met us there, but Mr. Collins, who farms the 1100-acre Kilham Farm was too busy clipping ewes to welcome us. The idea for this outing arose from a magazine article with the unusual heading "Walkers welcome on this farmland". A circular walk has been waymarked by the National Park Authority, while wildlife is being encouraged.

The area examined was mainly the old railway line that ran from Alnwick to Cornhill-on-Tweed. A fairly

overgrown and ungrazed section was ablaze with Meadow Cranesbill (*Geranium pratense*), large stands of Perforate St. John's Wort (*Hypericum perforatum*), Greater Willowherb (*Epilobium hirsutum*) and yellow banks of Common Cat's Ear (*Hypochaeris radicata*) and Hop Trefoil (*Trifolium campestre*). Other notables and less conspicuous were Creeping Cinquefoil (*Potentilla reptans*), Hairy Tare (*Vicia hirsuta*) and Dove's-foot Cranesbill (*Geranium molle*). Unexpected finds were Knotted Clover (*Trifolium striatum*) and a few plants of the delicate Pale Toadflax (*Linaria repens*), its pale lilac flowers veined violet. A drier, more open section of the old line revealed the yellow Common Toadflax (*Linaria vulgaris*), Wild Mignonette (*Reseda lutea*) and Haresfoot Clover (*Trifolium arvense*).

Noted along the roadside, during a walk to the woodland grounds of a country house, were Good King Henry (*Chenopodium bonus-henricus*), two impressive stands of Black Horehound (*Ballota nigra*) and, in a wetter area, Marsh Woundwort (*Stachys palustris*). The woodland of Thornington House, formerly the hunting lodge for the Tankerville Estate, revealed little of interest other than a family of Song Thrush and a Bullfinch. Other birds seen during the day were a Yellowhammer, Siskins and Goldfinch. Despite the fine day, butterflies were scarce, apart from a few Ringlets. All-in-all though, a satisfying day.

GRAHAM SWIFT

BADDINSGILL

Date Saturday, 1st August
Leader Michael Osborne

Baddinsgill lies to the north west of West Linton and is a classic grouse moor, with a resident keeper to undertake muirburn, and with sheep numbers well controlled in order that they do not graze out the heather. We spent most time on the lower ground, in the herb rich meadow and woodlands adjoining the mansion, and in the shelterbelt beside the Baddinsgill Burn, below Muckle Knock. The meadow was an unusual sight - a large area covered with Melancholy Thistle (*Cirsium heterophyllum*). Nearby, two keen-eyed members found plants of Broad-leaved Helleborine (*Epipactis helleborine*). The latter wood contains a small, rich raised bog, where Cranberry (*Vaccinium oxycoccus*), Crowberry (*Empetrum nigrum*) and Marsh Violet (*Viola palustris*) grow. It was being fenced to exclude the 'woolly maggots' - a good conservation measure undertaken wholeheartedly by the owners, the Marshall family, who run a forestry consultancy and contracting business from the estate. A farm / forest trail has been laid out on a circular route from the car-park at the road end, and is an excellent example of the use to which funds available from the Forestry Commission can be put to enhance the opportunities for local residents to walk in the countryside.

The owners are enthusiastic members of the Royal Scottish Forestry Society, whose object is the

'advancement of forestry in all its numerous branches' which includes conservation in hand with timber production. They must be thanked for their permission to visit and for providing helpful maps and guidance notes. EHNS will certainly seek to return at some future date to record further the positive changes which are being achieved to enhance habitat diversity of former species-poor sheepwalks.

MICHAEL OSBORNE

FLOTTERSTONE

Date Wednesday, 5th August
Leader Jim Stewart

Jim Stewart carried on the good work from his Red Moss spiders outing of 1997 by introducing us to the arachnids of a different habitat. The gorse, streamside and woods upstream from Flotterstone contrasted with the birch and heather of Red Moss. The one common factor was the presence of midges! The spiders identified by Jim were:

Xysticus cristatus	a crab spider
Philodromus cespitum	a different genus of crab spider
Enoplognatha ovata	yellowish abdomen with or without carmine stripes
Tetragnatha extensa	with large chelicerae
Zygiella atrica	maker of web with open segment
Araneus diadematus	the familiar garden cross spider
Gongylidium rufipes	a money spider
Erigone atra	a money spider
Linyphia triangularis	a money spider with a pattern

Six of the nine were identified in the hand. The total was the same as last year but we were a bit better on specifics.

As well as the spiders there was plenty of natural history interest: the Green Woodpecker, Dipper, Striped Ladybird, Gorse Shield Bug, and a large Orange-underwing Moth.

Jim's knowledge and the group's enthusiasm made sure that the outing succeeded.

DAVID ADAMSON

GREENLAW

Date 8th August
Leader Duncan Gill

We met at Greenlaw and set off out of town towards the disused railway. There was a slight problem as 19 NATS tried to pass through a herd of skittish cows penned in on the old line. Once through a gate we turned our attention to the extra large puffbails in the adjoining field. At least one was carried home - it weighed 3 lbs we heard later. Apparently London

restaurants will pay £10 per pound for them!

Buzzards were heard and seen and the sun brought out a selection of butterflies including Tortoise-shell, Meadow Brown, Common Blue, Ringlet and Red Admiral. Notable flowers along the way were Sand Spurrey (*Spergularia rubra*), Field Scabious (*Knautia arvensis*), Hoary Willowherb (*Epilobium parviflorum*), Welled Thistle (*Carduus crispus*), Yellow Loosestrife (*Lysimachia vulgaris*) in a wet place, Flowering Rush (*Butomus umbellatus*) in the River Blackadder at the lunch stop, Thyme-leaved Sandwort (*Arenaria serpyllifolia*), and a lovely patch of Maiden Pink (*Dianthus deltoides*) on the embankment along with Yellow Oat Grass (*Trisetum flavescens*).

We followed the railway as far as the old Marchmont station, constructed specially for visitors and supplies to the big house in days gone by, now just a rather untidy transport yard. The return was by a country road. Those lucky enough to reach the shop before it closed rounded off the day with ice-cream.

JEAN MURRAY

JOHN MUIR COUNTRY PARK

Date Saturday, 15th August
Leader Mollie Woolgar

In dry, sunny and quite windy conditions, a party of 24 members set out across the dunes to follow a path to the north of the park, around the Tyne estuary. A variety of flowering plants was noted en route. These included Knapweed (*Centaurea nigra*), Bush Vetch (*Vicia sepium*), Harebell (*Campanula rotundifolia*), Storesbill (*Erodium cicutarium*), Rest-harrow (*Ononis repens*), Viper's Bugloss (*Echium vulgare*) and Lesser Stitchwort (*Stellaria graminea*). We also passed a particularly fine example of a fairy ring. Lunch was taken at the western end of the estuary, where we searched for shelter from the strong winds and had a fine view of Tynninghame House on the opposite shore. A few of us clambered down to the marshy shore to examine specimens of the Glasswort (*Salicornia*), and Sea Spurrey (*Spergularia*) families plus Seablite (*Suaeda maritima*). On this day the period around high tide for best viewing of shorebirds was well passed. Some Oystercatchers, Sand Martins and flocks of Blackheaded Gulls were seen. One member of the party, who ventured further around the bay, managed to spot several greenshanks. We returned by the same route, having enjoyed a very pleasant seaside amble.

MARGARET PERRY

GLENHIGHTON

Date Saturday, 22nd August
Leader Michael Osborne

This outing to a remote glen of the Holms Water near Broughton combined a tour of a splendid woodland garden with a circuit of a coniferous plantation,

although those attending were free to choose their itinerary. Glenhighton was a hill farm before being planted in the early 1970s with forest species, both hardwoods and conifers, in mixture and as single species compartments, now maturing into a 'model' forest with a good mosaic of form and colour to satisfy the most demanding criteria of modern design. The owners, Michael and Iris Strachan, and their son, Hugh, all turned out to welcome the party, and led a tour through the gardens which contain the National Collection of *Rosa pimpinellifolia* (Scots Briar or Burnet Rose).

Those who chose to tour the garden first were fortunate in having Mrs. Strachan identify some of the unusual plants apparently thriving at almost 800 feet above sea level. The garden is bisected by a small burn and has marsh and riparian plants as well as those preferring drier habitats. One very rare British umbellifer, Sickie Hare's Ear, native to Essex, was doing well. Despite passing on the National Collection of Comfrees (*Symphytum* species), the leaves of many were evident.

The Strachans who are enthusiastic members of the Royal Scottish Forestry Society are very much 'hands-on' owners making best use of the time available to resident 'lairds' to implement and maintain improvements which enhance the wildlife interest of their property. The high ground up to the summits of Cardon Hill and Chapelgill Hill, beyond the treeline, is being managed under an Environmentally Sensitive Area scheme to retain and extend the area of heather in the interests of Grouse, both red and black.

The Strachans showed us the point on the map where Grass of Parnassus (*Parnassia palustris*) was flowering by a clearing in the hillside conifer wood. An interesting forest track through a plantation with several exotic conifer species as well as Scots Pine led to the place. The track continued to climb and afford views of the Moorfoots to the east, before bending back in a series of angular twists to Glenhighton. Some took advantage of paths to the hills from where the Highlands and North Pennines could be distinguished. A bird species list of over 75 testifies to the diversity of habitat now available including Willow and Alder scrub, conifer thicket, rushy meadow and open moor. Although Deer were only glimpsed and Buzzards seen from a distance, there were Sparrowhawks, Kestrels, Redpolls and a large number of very tame Siskins. In a poor year for butterflies, 3 species were seen.

As well as Grass of Parnassus, the plants included Birdsfoot (*Ornithopus perpusillus*), 4 species of Clubmoss, white varieties of Seifheal (*Prunella vulgaris*) and Harebell (*Campanula rotundifolia*) at least 7 Sedge species and Scurvy Grass (*Cochlearia officinalis*). The botanists also had a 'field day' in every sense.

Our thanks to the Strachans for hosting our visit and to Michael Osborne for bringing us to this new location.

DAVID ADAMSON

The Glenhighton garden is featured in the Book of Designer Gardens by Celia Haddon and Roy Botterell (Published by Jarrold, 1989. ISBN 07117 05003 Price £9.95).

Glenhighton can be visited when open under Scotland's Gardens Scheme (Thursdays, 24th June, 29th July and 26th August, 1999 at 2-5pm).

ABERLADY BAY

Date 29th August
Leader Bill Clunie

21 members of the Society assembled at 10.30 in the Reserve car park. As the tide was out I decided to walk along the main road back towards Aberlady to view the banks of the Peffer Burn, as they can be good for waders at low tide. We had good views of a Whimbrel and Greenshank. We retraced our steps and crossed over the wooden bridge into the Reserve. We stopped at the Marl loch to look for a Water Rail which had been seen the previous day in the Reserve and this was the most likely spot. There was no sign of the bird but I noticed a large brown bird roosting in the Buckthorn on the opposite side; on closer examination through my telescope I identified it as a Long-eared Owl. All the members of the party had very good views of the bird and for most of them this was the first time they had seen one. After observing the owl for some time we continued on past the scrape to the beach where we headed eastwards to Gullane Point for our lunch break. At the Point there were some Eiders and Goosanders close in, with the usual Gannets and Shags further out. After lunch we continued to the Hummel Rocks where we saw a small flow of Golden Plover. We returned via the dune slacks and rejoined the footpath at the sewage works and then back to the car park.

BILL CLUNIE

WOODHALL DEAN and GARLETON HILLS

Date Saturday, 5th September
Leader Bill Baird

The members met and parked in the layby at Woodhall Dean. We set off up the farm track by the Woodhall Burn for our first objective - an irrigation pond dug by the local farmer. In the disturbed gravel around the sides and embankment of the pond the leader pointed out numerous pieces of the iron mineral hematite and pieces of a heavy mineral called barytes. He also showed an interesting cross section of a volcanic dyke which had been exposed during the excavation work. The presence of the two minerals was explained as being probably due to the movement of hot fluids in the rocks of the Old Red Sandstone when they were cut by the then molten lava of the dyke as it was intruded.

Having had enough geology for a starter the party crossed the boundary fence to the east into the Scottish Wildlife Trust reserve of Woodhall Dean.

As we continued our way upstream towards the area of Sessile Oakwood at the heart of the reserve we began to see some of the wildlife for which the area is noted. A family of Roe Deer bounded away into the bushes and a Buzzard soared overhead. At the bridge in the centre of the reserve we looked down into the over deepened channel of the Woodhall Burn which had been cut by the active, highly charged flow at the end of the last Ice Age. The sides of the gorge are lined with fine groups of the Harts Tongue Fern betraying the lime rich nature of the rock on which they are growing.

We returned to the parked cars by a route which took us along a narrow ridge of Old Red Sandstone from which superb views can be had over the reserve. Unfortunately at one point the path came very close to a Wild Bees' nest in an old Great Spotted Woodpecker hole. While such an occurrence is very interesting it was just a little close for comfort.

Returning to the cars the leader pointed out that the stream valleys in this area of East Lothian are actually much bigger than they need to be to accommodate the streams currently flowing in them. This was explained by the fact that as the ice melted at the end of the last glaciation, rivers whose normal course was blocked by ice sheets, flowed along the face of the Lamnermuir Hills. These substantial rivers cut big valleys which now dwarf the little streams which normally trickle through them. The party embarked in their vehicles and headed for the car park by the Hopetoun Monument.

Arriving at the Hopetoun Monument the party settled down to lunch around the base of the monument which had been built to the memory of the fourth earl of Hopetoun. After being refreshed by buns and tea the more adventurous climbed to the airy top of the monument for the wonderful views of East Lothian. The group then set out across the top of the Garleton Hills for Skid Hill Quarry. The leader took time to point out on our journey that the numerous drystone walls which we had to cross provided a good place to examine the local rocks. The volcanic nature of the Garleton Hills and the way in which a succession of lava flows and intrusions had formed sharp scarp slopes and gentle dip slopes was explained. At Skid Hill Quarry study of its quartz trachyte rock came to a sudden halt as the lovely flowers of the Maiden Pink (*Dianthus deltoides*) were discovered. A quick count round the margin of the quarry came to about a dozen plants in the short rabbit grazed turf. In the shelter of the quarry there were a number of butterflies making the best of the sunshine - mainly Small Coppers and Tortoiseshells.

A clump of the attractive pale pink flowers of Soapwort was found near the edge of the quarry. Margaret White has kindly done some research about the plant; see below.

On leaving the quarry the party made its way back towards the Hopetoun Monument by a track which followed the old post road. A hedgerow beside the path proved to be composed of Hornbeam which is

now quite an unusual hedgerow tree in Scotland. The last geological stop of the day was at the Garleton Iron Mine where just over a hundred years ago over ten thousand tons of iron ore a year were being extracted from what is now just a large slot in the ground mostly filled with rubbish. It was possible to see some narrow veins of the iron ore remaining in the walls of the quarry but the remainder of its industrial past is consigned to history. The party returned to the car park by the base of hill on which the Hopetoun Monument stands. All agreed that we had a good day with something for everyone.

BILL BAIRD

SOAPWORT

Saponaria officinalis is known as Soapwort, Bouncing Bett, Bruisewort, Skowrwort and Hedge Pink.



Saponaria officinalis

It is a fairly common plant of hedgebanks and waysides near villages where it is probably an escapee from cultivation. It is native to Europe and the Middle East and was introduced to North America; it is perhaps native in Devon, Cornwall and North Wales.

All parts of Soapwort contain certain Saponins, resin and a small quantity of volatile oil. Saponins lower the surface tension of water, producing a lather. When Soapwort is boiled in water, a green lather is obtained with the power to lift grease and dirt especially from fabrics.

The Greek physician, Dioscorides, in the first century A.D. may have had Soapwort in mind when he described a plant used for washing wool. In Syria it has been cultivated for washing woollens, in the Swiss Alps used as a sheep wash prior to shearing and in Britain employed as a soaping agent by medieval fullers who knew the plant as Foam Dock. Because vegetable saponins are gentler than soaps, soapwort has been used recently by Museums for washing

ancient tapestries and by the National Trust for bringing up colours in old curtains. Some herbals give recipes for Soapwort Fabric Shampoo and for Soapwort Hair Shampoo.

Soapwort is mildly irritant to the respiratory and digestive systems and was used medicinally, in small doses, as an expectorant and as a laxative. It was also applied externally for skin conditions such as eczema. The herb was gathered whilst in flower in summer and the roots dug up in autumn.

Soapwort was introduced into America and grown on the nineteenth century herb farms of the American Shakers who attempted to soothe the rashes of poison ivy with solutions of the plant.

MARGARET WHITE

HERIOT and CARCANT

<u>Date</u>	Saturday, 12th September
<u>Leader</u>	George McDougall

A visit to the grounds of Borthwick Hall under the leadership of George McDougall was made by an impressive group of 17, considering that it was pouring with rain. The house itself was built in 1852 and at one time David Douglas of Douglas Fir fame lived here. Apart from the Douglas Firs there was Norway Spruce, Giant Sequoia, Cedar of Lebanon, Leyland Cypress and Irish Yew. We then drove half a mile up the valley and walked up to Carcant House where we wondered if there might be a possibility of sheltering for lunch in the roofed-over timber shed. Mrs Hicks, the owner, seemed to look over the writer's shoulder at the redoubtable ladies beyond and hastily said she would give us the key of the summerhouse. What luxury! It had bedrooms and toilet facilities so we could not believe our good fortune and the generous hospitality considering that we were dripping over the floor! It was in great spirits that we set off up the valley, still in the relentless rain, to a small lochan to see the highlight of the day, or possibly of the month, the wonderful sight of the Flowering Rush (*Butomus umbellatus*) named from the Greek BOUS - an ox, and TEMNO - I cut, because cattle feeding on the leaves are liable to cut their mouths.

Despite the rain we also saw Great Spearwort (*Ranunculus lingua*), Rockrose (*Helianthemum nummularium*), Monkey flower (*Mimulus* sp.), Thyme-leaved Sandwort (*Arenaria serpyllifolia*) Pirri-pirri bur (*Acaena inermis*), New Zealand Willowherb (*Epilobium brunnescens*), Devil's Bit Scabious (*Succisa pratensis*), Grass of Parnassus (*Parnassia palustris*), Reed Sweet Grass (*Glyceria maxima*). We also saw Royal Fern (*Osmunda regalis*).

The only bird noted was a Dipper. Immediately we arrived back at the cars it stopped raining which lifted our spirits but it was the kind hospitality of Mrs Hicks which gave us our enthusiasm for our botanical finds on her property.

JANET WATSON

TRAQUAIR

Date Saturday, 19th September
Leader Elizabeth Farquharson

It was most kind of Mrs. Maxwell Stuart to allow the ENHS to foray in the grounds of Traquair House and we would like to express our thanks. Adrian Newton writes in the Fungus Group of SE Scotland Newsletter of January 1999:

Reputedly the oldest inhabited house in Scotland, Traquair sits in a secluded spot on the River Tweed in beautifully tranquil grounds. Despite having dried out rather under a stiff breeze, some 40 species of fungi were eventually unearthed after a lot of diligent searching. The most interesting finds were *Lactarius acerrimus* growing near Oak, with a beautiful zoned orange cap, and the apple-scented *Russula farinipes* (which appears to be not uncommon locally). *Pholiota alnicola* growing in clusters at the base of an Alder was an attractive sight, but even more exciting was the discovery of the Birds Nest Fungus *Cyathus striatus*, with its hairy outer surface and 'egg' peridioles.

ADRIAN NEWTON

SALTOUN WOOD

Date Saturday, 26th September
Leader Mike Richardson

In the absence of regular fungus enthusiasts who were occupied in the Antipodes and other foreign parts, twelve was an excellent number to turn out for Mike Richardson's walk in Saltoun Wood. Not only were there twelve people but there were several new forayers among them. Whether because of the increasing coverage of television programmes, attractive books or just an awareness that even things with really odd names can be interesting rather than intimidating, it was very nice to welcome 'new' people to an interest in mycology. However perhaps a warning should be given that it can become an obsession!

The weather was delightful and we all enjoyed grubbing in the undergrowth to see what we could find. The recent long wet spell had been followed by days of unexpected warmth in the previous week and had brought on a very satisfactory flush of fungi.

Surprising information came not only from the leader but also from the illustrated guidebooks carried by the forayers. Mike demonstrated how more could be found out about small fungal fruit-bodies on bark by using a knife. He went on to explain how the use of a microscope could help explore the nature of the jelly-like material which underlies the surface fruitbody. He also used his knife to cut away at a branch and demonstrated the fungal competition which leads to 'spalted' wood - much sought after by wood-carvers and artists. It was pointed out that the 'hypoxylon' of *Xylaria hypoxylon* means 'under the wood'.

Our noses detected stinkhorns (*Phallus impudicus*) and we were fortunate to see them in all stages from 'egg' to covered with mucus and a multitude of busy flies. Finally many of the wilted 'gone-over' specimens were found. So often on a walk our noses lead us to one solitary specimen or, if several are found, they may be at a similar stage and the process (wouldn't it be justified to term it a metamorphosis?) can only be described to a sceptical audience rather than observed. The prolific feast led to the virtues of Stinkhorns being extolled as food but no-one (other than the voracious flies) seemed too convinced about their culinary potential.

Edibility as a topic occurred again when we found *Sparassis crispa* (the 'cauliflower' fungus) and also a species of *Lepista*. Gone are the days when the forayer could look up the 'Collins' book and state categorically that it was undeniably *Lepista nuda* because of the appearance. Since it was not looked at microscopically, we shall term it (like many others) as simply a species of *Lepista*. That's the problem with expanding knowledge - it takes away the easy and (supposedly) obvious answers.

However there was little doubt about the next specimen found - *Boletus edulis*, the Penny Bun. But then again was there some doubt? The socratic nerve began to twitch as a memory returned of a walk at Saltoun a few years ago when an unusual Penny Bun was found. Where were my old notes? Why can't I read my own writing? Why don't I put the date down? The value of being able to look back at old records whether taken with pencil and paper or transcribed from a hand-held recorder cannot be underestimated in the learning process. Nowadays the extra cataloguing and access to records offered by computer databases could revolutionise our thinking and lead to more questions and consequent deeper understanding.

A measure of the success of the foray was that the plant enthusiasts (yes, those who are always at the 'tail-end' of the group) stayed with the party and rarely gave the plants a second look - success indeed and they certainly contributed to the pleasure of the outing. A specimen of *Amanita spissa* showed the typical 'rice paper' floccules on the cap. For those people (perfect cooks) who do not know what 'rice paper' means - let a pan of rice and water boil over and then allow it to cool - the resultant 'rice paper' can then be detached from the outside of the pan!

Other *Amanita* specimens were found - the cap of one was darker than *A. spissa* and the remnants of the volva on it were in smaller patches and much darker. Very distinct striations were evident on the ring as it hung downwards. Later Mike was able to confirm microscopic identification as *A. porphyria*. *A. citrina* was also found (with a distinctive smell of potatoes) and Mike drew our attention to the difference in how the veil ruptures in *A. spissa* and in *A. citrina*. A good illustration of this can be found on p.293 of **The Mushrooms and Toadstools of Britain and North-western Europe** by Marcel Bon.

Just before lunch we were treated to a lecture on the medical uses and also the dangers of ergot (*Claviceps purpurea*): this is a disease of rye and other grasses and those of us eating brown bread thought of what might have happened in the days before more strict food controls.

After lunch it was pleasant to find *Tricholomopsis rutilans*. This fungus surely deserves to be termed a 'friend'. The fungus looks so attractive and once one has seen it and been given the popular name of 'plums and custard' it is never to be forgotten. In several areas there was the distinctive smell of pelargonium associated with *Russula fellea* even although all the trees were conifers and there seemed to be no evidence of deciduous stumps.

The large amount of timber being cut in the area had resulted in large puddles of water under the trees. The tracks were deeply rutted and pitted by the wheels of the heavy vehicles used to remove the timber from the site. In one area we presumed that the birch had been removed in order to permit greater freedom for conifer growth.

Mike took a selection of rabbit droppings home with him to culture and in the natural process of time they yielded a respectable number of fungal specimens for him to study with his microscope. He identified 19 Ascomycetes, 6 Zygomycetes and 3 Basidiomycetes (*Coprinus cordisporus*, *C. miser* and *C. stercoreus*). It is reassuring that nature still provides a species for the re-cycling of nutrients for the benefit and comfort of us all. He also scraped a small sample of spores on the blade of his penknife from a *Coprinus* which had a hairy base. This was later found to be *Coprinus cortinatus*.

I've mentioned doubts as to identification in this article - the doubts are mine and mine alone and if I worked harder and was able to spend more time on the study there would be fewer of them! However Mike is used to someone asking questions (even when some of them have been asked many times before) and it is thanks to him and people like him that fungal forays are so enjoyable.

EUNICE MCA. SMITH

HAPPENDON WOOD

Date Saturday, 3rd October
Leader Graham Walker

This was a return visit as we had covered a small area of the wood last year. Most of the keen fungus people were away and only 5 of us turned up, which was a pity as our leader, ably filling in for an indisposed Scott Alcorn, had come over from Ayr. However, the wood is in a survey area not yet on the West of Scotland checklist so you could say we were helping, and Graham was only too happy to explain things in detail to our not very knowledgeable group. The finds were fairly ordinary and not as varied as last

year. At first, under the beech trees, the fungi were either *Russula ochroleuca* or *R. fellea*, but at the end of the day I found I had a list of 50. Graham told us that the wood was at least 200 years old and probably planted on the site of an even older one. The present owners (Douglas-Home Estates) seem happy to leave it to its own devices at present, though an area of conifers has been felled.

JEAN MURRAY

THE BING near STONEYBURN

Date Saturday, 10th October
Leader Adrian Newton

This trip was intended as a fungus foray, and turned out to be a successful one, with Adrian Newton calling it a day mid-afternoon, by which time his basket was overflowing with specimens. The bing (usually referred to as Foulshiels Bing - the local names are not very complimentary) is apparently a reclaimed coal bing, though there seems to be an awful lot of oil-shale around too. It has been planted up with conifers on the highest part, but there's a lot of self-set scrub round about, with a good deal of marsh in places - and some very interesting plants have colonised it. Two comparative rarities grow in some profusion: Common Wintergreen (*Pyrola minor*) and Stagshorn Clubmoss (*Lycopodium clavatum*), but the real find of the day (as far as I was concerned) was a single plant of Fir Clubmoss (*Huperzia selago*), noted by the eagle eye of Jean Murray. It was last recorded in West Lothian at the turn of the century on Knock Hill, a more suitable habitat, but one where it must have been trampled to death long ago.

JACKIE MUSCOTT

FUNGI at STONEYBURN BING

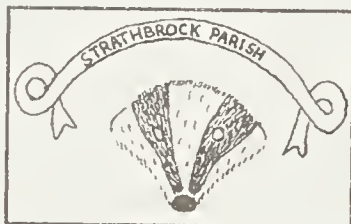
The Lothian bings have long been recognized to be of botanical interest, but what about their value as a habitat for fungi? A party of around 15 people gathered in order to find out, braving some rather chill autumnal conditions in the process. There had in fact been a fairly sharp frost the previous night, which is never helpful to the mycologist, as delicate fungal structures tend to collapse into a soggy mass as they thaw out (not that much thawing was going on). Stoneyburn bing initially looked rather unprepossessing on a grey October morning, with the Council's abandoned attempt at a family picnic site looking rather forlorn, brightened only by the remains of an abandoned car. However it took only a few minutes for us to realize that the Woodland Trust have here a little treasure. The bing has been colonized by a large variety of heath plants, and a mixed woodland is developing in patches. Clumps of heather were accompanied by the delightful yellow Club fungus (*Clavaria argillacea*) growing in exceptional profusion. Young birches were surrounded by rings of Coconut Milk Caps (*Lactarius glyciosmus*), Poison Pie (*Hebeloma crustuliniforme*) and a number of different

Boletes (*Leccinum scabrum* group). Of these, *Leccinum holopus*, with bright white colouration, was the most interesting - this is generally considered to be a fungus of the Highlands. Good displays of a greenish brown cup fungus, *Peziza badia*, (the only fungus name ever to appear on 'Call My Bluff'!) were visible under a group of planted conifers, along with large troops of the attractive *Hypholoma marginatum* and a variety of *Mycena* species. A particular highlight was the beautiful yellow *Cortinarius delibutus* growing in association with birch. Along with the other mycorrhizal species, this fungus has probably played an important part in enabling the trees to colonise the bing, through their symbiotic association with tree roots. In total some 45 fungal species were recorded, a good total for a short visit so late in the season. Some of the heathier areas would repay closer investigation, as was indicated by a very curious find of a stipitate *Ascomycete*. This keyed out as *Cudonia confusa*, an unlikely find in this habitat. However none of these finds could match the botanical highlight of the day, a Clubmoss *Lycopodium* sp recorded for the first time in West Lothian for over 100 years.

ADRIAN NEWTON

ALMONDELL & CALDER WOOD

Date Saturday,
7th November
Leader Mary Konik



On this occasion the excursion took the form of a walk in the country.

Mary, the head Ranger, guided a party of thirteen around paths in the vicinity of the Almondell Country Park on a mild and dry autumn day. The park itself encloses a 2 mile stretch of the relatively deep and well-wooded valley of the Almond, where the river is crossed by a number of bridges of historic interest. The most notable of these is the recently restored Nasmyth Bridge, built in 1800. Other crossing points are a viaduct of nine segmental arches, carrying a disused mineral railway; an aqueduct constructed of cast iron in 1820; and a pedestrian suspension bridge, built in 1970. We were told a little about the intricate system of waterways in the district: how the Cobbinshaw reservoir serves to replenish the Almond river, and the Almond is used to feed the Union Canal via a feeder stream. This stream is carried over the aqueduct, then runs eastward along the 225 foot contour line of the valley to feed into the canal a mile or so downstream. At this point the canal is carried over the valley by another aqueduct, fitted with a sluice gate to discharge excess canal water into the Almond, some 120 feet below. After the recent heavy rains, the overflow cascading down this 120 foot drop was a spectacular sight.

In the morning we crossed over the suspension bridge and followed a glaucous path eastward beside the feeder stream to Linn's Mill. Here we stopped on the

aqueduct to admire the magnificent autumn colours of the Beech, Larch, and Chestnut below. Various fungi were seen along the way, including Clouded Agaric (*Clitocybe nebularis*), Jew's Ear (*Auricularia auricula judae*), Coral Spot (*Nectria cinnabarina*), Shaggy Scalehead (*Pholiota squarrosa*), Wood Blewit (*Lepista nuda*) and a collection of *Resupinate* species on dead wood. A fallen Elm showed signs of infestation by the fungus *Ceratocystis ulmi*, indicated by numerous holes bored in the bark by the elm-bark beetle, the fungal carrier. The few plants still in bloom so late in the season were White Dead Nettle (*Lamium album*), Pink Purslane (*Claytonia sibirica*) and a delightful little bunch of Water Forget-me-not (*Myosotis scorpioides*). We were unfortunate in not sighting some of the fauna of the glen, though we did spot a freshly killed bird, presumably brought down by a Buzzard. Amongst other residents we were told about Kingfishers, a family of Otters and a rare albino mutant of the Grey Squirrel.

The circular route was completed by road, passing a stone erected in 1784 in memory of William Wallace and said to be the earliest memorial in the country to this patriot. Lunch was taken in comfort at the Visitor Centre, a well-appointed building formed from the coach-house of the original mansion, belonging to the Erskine family. Another historical feature, re-erected in front of the Visitor Centre is the Astronomical Pillar. It was built by a mathematical member of the family in 1776 and is engraved with calculations which were used to construct a model of the solar system. The model is considered to be remarkably accurate for its time. In the parkland around the centre were splendid specimens of a Holly tree (*Ilex aquifolium*) and a Red Oak (*Quercus rubra*), the tiny acorns of which take two years to mature.

As a bonus, Mary kindly offered to guide us on an afternoon's circuit through the glen, then northwards along the old Powie's Path, to view some reed beds. Two beds of closely-packed reeds, some 5 feet high, were planted for the purpose of purifying the run-off water from the nearby shale bings. The plants effectively remove heavy metals from the water, which is routinely tested for contaminants before being released into a stream entering the Almond. We finally returned to our vehicles just before dusk, with well-stretched legs, after an enjoyable 8 mile tour. Our thanks are due to Mary for a most informative excursion.

MARGARET PERRY

MUSSELBURGH

Date Saturday, 5th December
Leader Charles Pountain

Twenty-four members met at the mouth of the Esk at Musselburgh on a bitterly cold yet dry day to look at birds in what was a perfect light. We were joined by Dave Allen, the Lagoons Ranger, who immediately told us about the birds he had seen during the previous hour, which we were highly unlikely to see - typical!

Never mind, what we did see we enjoyed. Little wonder we did for at Musselburgh, enjoying the elevated position from the path by the sea wall you can get exceptionally close to birds feeding on the shore below. To see, for example, a Grey Plover in its winter plumage just below us, you realise what a beautiful bird it is - as one member said 'Surely it should have been called the Silver Plover'. Three male Goosanders were also at the river mouth along with Eider, Goldeneye and Mallard. Most of the common winter waders were also seen feeding on the incoming tide. We returned to our cars via the path round the active lagoon which serves as an important wader roost. Dave showed us a sprinkling of Knot among the Bar-tailed Godwit and Curlew and further along, thanks to his powerful 'scope we spotted a Black-tailed Godwit among the Bar-tails. Long-tailed Duck were plentiful on the sea.

Thanking Dave, we then moved on to the Wagon Inn at Aberlady for lunch, a member having used a mobile phone at the river mouth to make a table reservation - high tech NATS these days!

After lunch we met Ian Thomson, the Aberlady Warden, who took us for a short walk by the west shore of the Bay towards Kilspindie Golf Clubhouse. Ian delighted us with an immature Scaup in the Bay. Then came a scene which would make a wildfowl artist very envious - a large group of Widgeon feeding on the shore line just a few feet from us and beyond them only a few yards away, were fifty-eight Red-breasted Mergansers. It took Ian around ten seconds to confirm fifty-eight - amazing! And we did not argue.

The day produced nothing unusual - no Richards Pipit ticked off at the lagoons a few days earlier by hundreds of twitchers - but an enjoyable day nevertheless. This writer is a 'Duck fanatic' and it was good to see eight species. If we had had more time we would most certainly have observed four more: Velvet Scoter on the sea, Shoveller and Teal on the scrape and Tufted Duck on the Boating pond. Add the duck total to the wide variety of winter waders and the 'little brown jobs' that we (apart from Dave and Ian) have the inevitable problem over and it all adds up to a super day on the bird trail.

How better to end it than by watching the skeins of Pinkfoot coming into roost in Aberlady Bay. Thank you Dave and Ian.

CHARLES MOUNTAIN



DAVID DOUGLAS BICENTENARY 1999

David Douglas, the man who introduced to Britain the various conifers including Douglas Fir and Sitka Spruce, was born on 25th June 1799 in the Parish of Scone. To celebrate his bicentenary the David Douglas Society is producing a programme of events which include talks and visits to woodland areas. Among the summer outings are excursions to Dawyk and Glentworth. Copies of the programme can be obtained from the Forestry Commission in Perth (Mr Syd House) 01738442830

OBSERVATIONS

FOR

1998



A DEJECTED HERON!

JANUARY

03/01/98	Merlin at Yellowcraigs.	BC
08/01/98	A dejected Heron standing by Inverleith Pond. Also a male Goosander.	CS
10/01/98	Aconites flowering at Ormiston; Snowdrops and a Primrose in a wood near Gifford and Hepatica in the garden. Gilbert White makes the same record on the same day in 1769 at Selborne! Also at Gifford a very active swarm of honeybees in a hollow tree. No doubt due to the very mild weather.	CS
11/01/98	At Musselburgh, Great Crested, Black-necked and Slavonian Grebes; also Red-throated Diver and a small flock of Twite. RSPB Outing.	MR
14/01/98	10 drake Goosanders; a Water Vole on Outlet Burn, Duddingston Loch and Bawsinch SWT Reserve.	CR
16/01/98	A female Blackcap at the bird table in the garden at Blackhall. NT 216746.	MR
17/01/98	Goosanders on the Tweed at Peebles. ENHS Outing.	MR
19/01/98	Small group of up to 6 Siskins feeding regularly on bird nut 'stocking' in the garden during January and February - Blackhall.	MR
20/01/98	2 Water Rail at Duddingston Loch & Bawsinch SWT Reserve. Minnows (<i>P. phoxinus</i>) at Outlet Burn.	CR
20/01/98	Little Auk at Yellowcraigs.	BC
31/01/98	One Brambling seen at Carfraemill.	MC, LB, EG, JeM

FEBRUARY

01/02/98	Tawny Owl carcass and Roe Deer skull with antlers. Binning Wood	ES, MC, EF
03/02/98	2 pairs of Goldeneye; drakes were 'neck-rolling'. 1 pair of Grey Heron nesting at Duddingston Loch & Bawsinch SWT Reserve.	CR
04/02/98	Long-tailed Tit and Sparrow Hawk soon followed by a Wren, a Squirrel and Pigeon each going about their business within a few feet of each other. Garden at Davidson's Mains.	ES
07/02/98	Goldcrest in young Spruce tree. Garden at Davidson's Mains.	ES
07/02/98	RSPB visit at Duddingston Loch & Bawsinch SWT Reserve - we saw a Stoat.	CR
07/02/98	I counted 44 Curlew on grass and I watched 6 Long-tailed Tits in the trees at Lauriston Castle. Snowdrops in flower.	MR
07/02/98	Adult Mediterranean Gull at Musselburgh.	BC
07/02/98	<i>Ciboria amentacea</i> , a tiny Cup Fungus arising from damp male catkins of Alder (<i>Alnus</i>), found in Penicuik woods.	MC
	4 Buzzards seen overhead - Penicuik woods.	MC, LB, EG, SS, MW, JeM
09/02/98	An orange, toothed, resupinate growing on the trunk of a felled tree, probably Beech - <i>Steccherinum ochraceum</i> - at Newhailes, by Musselburgh.	EF
14/02/98	Glaucous Gull at Seafield.	BC
16/02/98	The beginning of a very mild fortnight brought out the Daffodils and finished off the Snowdrops.	MR
16/02/98	A small group of Twite on the grass at the mouth of the Esk at Musselburgh.	NL, MC
17/02/98	Treecreeper. Garden at Davidson's Mains.	ES

19/02/98	Queen Bumble Bee on cleansing flight. Honey Bees in Ceanothus flowers. Cherry trees in blossom.	MR
21/02/98	Green Woodpecker calling in Hermitage of Braid.	EF
22/02/98	Peacock Butterfly in my garden at Blackford Hill.	MC,JM
26/02/98	Dead male Badger, weighing 21lbs, recovered from public Right-of-Way path near road and railway line at NT449616.	EF
28/02/98	Rough-legged Buzzard, near Airdrie.	BC

MARCH

09/03/98	Song Thrush singing very early in the morning (4.30am) , Penicuik.	DC
15/03/98	Goldfinch feeding on peanuts - Penicuik.	DC
23/03/98	A pair of Kingfishers - Water of Leith at Spylaw Park.	BC
24/03/98	First Chiffchaff heard at Duddingston Loch & Bawsinch SWT Reserve.	CR
28/03/98	Public walk at Duddingston Loch & Bawsinch SWT Reserve - Common Buzzard flew over, going north.	CR
29/03/98	A pair of Siskins on the nuts. Penicuik	DC
30/03/98	Carcase of Red-eared Terrapin (<i>Trachemys scripta elegans</i>) at Duddingston Loch & Bawsinch SWT Reserve; recovered by Colin McLean.	CR
30/03/98	Dead Badger on A1 near Monks Muir Caravan site NT554758.	EF, JL

APRIL

03/04/98	Dead Badger on road, A68, at NT 635250. Other badger deaths, without dates, have been reported as follows: Near Lindean Reservoir (1) Upper Largo, 100 yards from Scotland's Larder (1) On the road between Hawick and Selkirk (2)	EF
05/04/98	3 Sand Martin at Duddingston Loch & Bawsinch SWT Reserve.	CR
07/04/98	Carpets of Town Hall Clock (<i>Adoxa moschatellina</i>) near Ranger Centre at Harlaw Reservoir.	MC
10/04/98	On Ravelston disused railway line - <i>Microphora semilibera</i> in same area as in the past two years.	EF
12/04/98	Easter Sunday and very cold. Chiffchaff on Hope's Walk, Hopetoun House, South Queensferry.	MR
12/04/98	Red-breasted Goose - Vane farm.	BC
14/04/98	Blackcap and Willow Warbler at Duddingston Loch & Bawsinch SWT Reserve; one of each singing.	CR
15/04/98	Singing Blackcap, Belford, Edinburgh.	MR
16/04/98	Weather recorded as atrocious - rain, sleet, snow and very cold. Hopetoun.	MR
18/04/98	White Comfrey (<i>Symphytum orientale</i>) and Fringe Cups (<i>Tellima grandiflora</i>) in flower. Lovage (<i>Levisticum officinale</i>) and Red Alder (<i>Alnus rubra</i>) identified on Water of Leith. ENHS Outing.	MR
21/04/98	Massive numbers of <i>Peziza vesiculosa</i> and <i>Coprobacia granulata</i> on farm waste dump at Vogrie.	EF
22/04/98	In Roslin Glen, <i>Sclerotinia sclerotiorum</i> growing in association with Butterbur.	EF
23/04/98	Fall of Willow Warblers at Hopetoun Parkland. Two Nuthatch seen but they moved on. Tom Weaver, Hopetoun Ranger.	
23/04/98	12 Peacock Butterflies in old nursery at Currie.	MA, LB, MC, EG, SS
23/04/98	Great Tits now occupy one bird box on the wall of the garage, and Blue Tits are showing some interest in the second box on a clothes post in the garden in Penicuik.	DC
24/04/98	First Swallows seen at Hopetoun; House Martins overhead on migration.	MR
24/04/98	Mating pair of the Green-veined White Butterfly. Garden at Davidson's Mains.	ES
26/04/98	Song Thrush singing nonstop from the top of a tree; Penicuik garden.	DC
28/04/98	Singing Willow Warbler in Sainsbury's shrubbery, Blackhall.	MR
28/04/98	1 Whitethroat singing at Duddingston Loch & Bawsinch SWT Reserve.	CR
29/04/98	1 Small Tortoiseshell and 1 Orange Tip Butterfly at Duddingston Loch & Bawsinch SWT Reserve.	CR

Sclerotinia sclerotiorum



MAY

07/05/98	<i>Microphora semilibera</i> seen in Mortonhall Arboretum.	EF
09/05/98	Garden Warbler at Kinnoull Hill, east of Perth. Alexanders (<i>Smyrnum olusatrum</i>), Hemp Agrimony (<i>Eupatorium cannabinum</i>) and Chickweed Wintergreen (<i>Trientalis europaea</i>) in the old castle area. ENHS Outing.	MR BC BC MR BC BC
09/05/98	Wood Sandpiper at Aberlady. Black-throated Diver at Aberlady.	
11/05/98	Two Stoats in Hopetoun Parkland exploring tree roots.	
13/05/98	Grasshopper Warbler at Aberlady.	
13/05/98	Red-backed Shrike at Barns Ness.	
13/05/98	Purple Toothwort (<i>Lathraea clandestina</i>) with Willows on the bank of the Tweed near Mertoun Bridge.	MC, LB, SS DC
14/05/98	Great Tits in Penicuik garden hatch.	
16/05/98	1 pair of Canada Geese with 6 pulli at Duddingston Loch & Bawsinch SWT Reserve.	CR
16/05/98	Dog violet (<i>Viola canina</i>), Scarlet Pimpernel (<i>Anagallis arvensis</i>) and Butterwort (<i>Pinguicula vulgaris</i>) seen on Holy Island. ENHS Outing	MR
18/05/98	Three or four "clumps" of tiny spiders on my garden gate which moved outwards on silken threads when the gate was opened or shut and dispersed in about a day. These were identified by Jim Stewart as Garden Spiders (<i>Diadematus araneus</i>) - and very common.	MC MR
19/05/98	Swifts screaming at South Queensferry.	
23/05/98	3 Canada Geese with 3 pulli (young) at Duddingston Loch & Bawsinch SWT Reserve.	
	1 pair Canada Geese with 6 pulli.	CR
29/05/98	Behind Green Craig Hotel, Aberlady, on the seaward side of garden wall, I noted Bluethistle (<i>Eryngium alpinum</i>), Rosy Garlic (<i>Allium roseum</i>), Yellow Figwort (<i>Scrophularia vernalis</i>) and Caterpillars of the 6-spot Burnet Moth (<i>Zygaena filipendulae</i>) on Bird's Foot Trefoil (<i>Lotus corniculata</i>)	MR BC
30/05/98	Rose coloured Starling - Skateraw. May - Regular appearances of Orange Tip Butterfly. Garden at Davidson's Mains	ES



May was exceptionally cold with north-easterly winds and a severe frost.

JUNE

	June and July were recorded as the wettest for 60 years.	MR
01/06/98	Short-toed Lark at Torness. Shorelark at Torness. Icterine Warbler at St. Abb's. Sub-Alpine Warbler at St Abb's.	BC BC BC BC
02/06/98	3 Barnacle Geese at Duddingston Loch & Bawsinch SWT Reserve; also a Woodmouse outside Connell Hide.	CR
07/06/98	7 Great Tits fly; one left dead at the bottom of the box. Penicuik garden.	DC
09/06/98	A solitary Spotted Flycatcher at Hopetoun called till early July and was seen regularly till the end of August.	MR
09/06/98	Great Spotted Woodpecker chicks calling continuously from their nest high in an old Spanish Chestnut. I watched the parents flying in with food and departing immediately. Hopetoun.	MR DC
11/06/98	A Great Spotted Woodpecker landed on the bird table. Penicuik garden.	
13/06/98	Stone Bramble (<i>Rubus saxatalis</i>) found on the Inchcailloch outing. NS 419909	MR
13/06/98	Light Emerald Moth. ENHS outing to Inchcailloch.	ES
14/06/98	Great Spotted Woodpecker. (Garden at Davidson's Mains).	ES
17/06/98	Plean Country Park, Stirling District. Orchid Meadow with Greater Butterfly Orchid (<i>Platanthera chlorantha</i>) in profusion. Great Spearwort (<i>Ranunculus lingua</i>) on pond.	MR
19/06/98	6 fledging Blue Tits leave their box, again leaving a dead one at the bottom of the box. Penicuik garden.	DC
22/06/98	2 Oystercatchers paid a brief visit to Duddingston Loch.	CR

JULY

05/07/98	In John Muir Country Park by Dunbar, <i>Onygena corvina</i> found growing on decaying bird feathers.	EF
15/07/98	Tufted Duck female with 7 pulli at Duddingston Loch & Bawsinch SWT Reserve.	CR
21/07/98	Damselflies - <i>Coenagrion puella</i> and <i>Ischnura elegans</i> at Duddingston Loch & Bawsinch SWT Reserve. Red-eared Terrapin seen.	CR
26/07/98	Female King Eider at Kilspindie.	BC
28/07/98	A dead Pygmy Shrew (<i>Sorex minutus</i>) and 2 Smooth Newts (<i>Molge vulgaris</i>) at Duddingston Loch & Bawsinch SWT Reserve.	CR
31/07/98	Green Sandpiper at Tynninghame .	BC
	Spotted Redshank at Tynninghame.	BC

AUGUST

22/08/98	Three young Large-leaved Limes (<i>Tilia platyphyllos</i>) Craigcrook Road, Blackhall, Edinburgh.	MR
24/08/98	Kingfisher seen on the Black Burn near Burnshott, W.Loathian.	JM
25/08/98	Dragonflies - a female <i>Sympetrum striolatum</i> and female <i>S. danae</i> seen at Duddingston Loch & Bawsinch SWT Reserve.	CR
26/08/98	Three Buzzards in North Deer Park feeding on rabbit carcasses, Hopetoun.	MR
27/08/98	Horntail (<i>Urocerus gigas</i>) a female giant wood wasp in Hopetoun Parkland.	MR
28/08/98	A Long-eared Owl at Mari Loch, Aberlady. ENHS Outing.	BC
28/08/98	Black Horehound (<i>Ballota nigra</i>) in flower and Red Darter Dragonflies (<i>Sympetrum striolatum</i>) at Aberlady.	MR
29/08/98	Heavy infestation of Gall - <i>Eriophyes similis</i> on Blackthorn at Duddingston Loch & Bawsinch SWT Reserve.	CR
31/08/98	Yellow Wagtail at Tynninghame.	BC

SEPTEMBER

02/09/98	Black Tern (2 immature) - Musselburgh.	BC
04/09/98	2 Swift and 1 Swallow flying over, going south at Duddingston Loch & Bawsinch SWT Reserve.	CR
07/09/98	Wryneck at St. Abb's.	BC
	A Kingfisher at Duddingston Loch & Bawsinch SWT Reserve.	CR
09/09/98	Marsh Harrier (immature) - Aberlady	BC
10/09/98	Garganey - Musselburgh	BC
12/09/98	Pond with Flowering Rush (<i>Butomus umbellatus</i>) and Common Rockrose (<i>Helianthemum nummularium</i>) nearby. Carcant - ENHS Outing NT366525	
	Pirri-pirri Bur (<i>Acaena inermis</i>) on shingle at Heriot Water : bright red seedheads.	MR
13/09/98	Latest date for Peacock Butterfly at Duddingston Loch & Bawsinch SWT Reserve.	CR
14/09/98	First geese of winter over NW Edinburgh.	MR
19/09/98	On the ENHS Outing to the grounds of Traquair, the Birds Nest Fungus, <i>Cyathus striatus</i> , was found.	EF
20/09/98	A battle between Great Tits and Blue Tits for the box on the garage wall. One very angry Great Tit flew at the hole in the box, spread out his tail feathers to cover it so that nothing could get past him. He then flew into the box and stayed there until the Blue Tits left. Later a Blue Tit returned, perched on the box side, stretched out his neck and tried to look into the hole. He finally gave up and flew away. Penicuik.	DC
20/09/98	A pair of Buzzards <u>harrassed</u> by Jackdaws just north of Bathgate.	JM
21/09/98	Sawfly larvae (<i>Croesus septentrionalis</i>) stripping a young Grey Alder (<i>Alnus incana</i>) in Hopetoun Parkland.	MR
22/09/98	Peaceful mating took place between a pair of Mallards. A Little Grebe juvenile was being fed by both parents at Duddingston Loch & Bawsinch SWT Reserve.	CR
26/09/98	Singing Chiffchaff at Hope's Walk, Hopetoun.	MR
26/09/98	Red-breasted Flycatcher (immature) - Fife Ness.	BC
28/09/98	Last 3 Hopetoun Swallows seen.	MR

OCTOBER

03/10/98	Yellow-browed Warbler and a Reed Warbler at West Barns.	BC
06/10/98	Latest recording of Red Admiral at Duddingston Loch & Bawsinch SWT Reserve.	CR
08/10/98	Clouded Yellow Butterfly at St. David's Bay.	LB, EG
10/10/98	A Peacock Butterfly on the marigolds, its wings outspread to catch the sun's warmth. Penicuik.	DC
15/10/98	A Red Admiral on the Marigolds (surely the last of the year). Penicuik.	DC
21/10/98	Earth Tongues (<i>Geoglossum cookeianum</i>) on lawn in Columba Road, Blackhall.	MR
25/10/98	Jack Snipe at Tynninghame.	BC

NOVEMBER

04/11/98	Pentland Hills were white with snow.	MR
07/11/98	Red Pepper Fungus (<i>Paurocotilis pila</i>) among Fennel in Corstorphine garden. 2nd station in Lothians.	DA
09/11/98	Redwing foraging in leaf litter. Penicuik.	DC
22/11/98	Siskins feeding on Alder (<i>Alnus glutinosus</i>) near old railway line, Blackhall.	MR
26/11/98	The two nest boxes are occupied for roosting by two Blue Tits. We watch them fly in each evening as the days get shorter. They are presently flying in at 4pm. Penicuik.	DC
29/11/98	Flock of 30+ Ringed Plover at Silverknowes foreshore, an unusually large number for this area.	MR

DECEMBER

12/12/98	Flocks of Fieldfare, Redwing and Mistle Thrush competing for Yew and Holly berries in Hopetoun Parkland.	MR
21-23/12/98	Regular appearance of a Goldcrest on a young Spruce within a few yards of the house. Davidson Mains.	ES
22/12/98	Regular visits of Goldcrest to young Spruce tree (about three days). Garden at Davidson's Mains.	ES

The Observers:

DA	David Adamson	MA	Margaret Abel	LB	Lyn Blades
BC	Bill Clunie	DC	Doris Crichton	MC	Mary Clarkson
EF	Eliz. Farquharson	EG	Ena Gillespie	JL	Jean Long
NL	Nira Laing	JM	Jackie Muscott	JeM	Jean Murray
CR	Charles Rawcliffe	MR	Mary Robertson	ES	Eunice Smith
CS	Connie Stewart	SS	Sandra Stewart	MW	Margaret White

MOTH-TRAPPING - ANOTHER VERSION!

We were on holiday in France and had planned a river-side picnic in the Gorges de la Ceze so we were waiting in the market-place, Mejanne-le-cap, for the rest of the party to join us. As usual, my daughter and I were looking at the flowers when we noticed two beautiful Humming-bird Hawk Moths (*Macroglossum stellatarum*) apparently resting on Dwarf Convolvulus flowers, a garden annual, easily grown from seed.

One moth however, fluttered violently from time to time, especially when approached by a predatory wasp. We could not understand why it did not fly away. Having driven off the wasp we looked more closely and saw that it was somehow trapped by the head. I placed a finger below the flower, pushed gently and so released the moth which promptly flew away, head covered in pollen.

Turning to the second moth we realised it was also trapped and had probably exhausted itself trying to get free. So we picked the flower on which it rested and began tearing back the petals which formed a tube. To our astonishment we saw black proboscis fully extended to the base of the flower where there was a slight constriction and presumably the source of the nectar just above the ovary. Once the tube was torn open, the moth was released. I have not seen the like before, flowers trapping moths is something new to me.

MARY ROBERTSON

WINTER INDOOR MEETINGS

1998

28TH JANUARY

Plant Hunting in Western China

RON McBEATH

Mr. McBeath's expedition took him from Dali in Western Yunnan Province northward by the Yunlong Shan and the Yhongdian Plateau onto the Tibetan Plateau in Linghai Province.

Yunnan has 10 times as many plant species as are found in the Lothians, with Primulas, Gentians and Rhododendron by the hundred. Large numbers of species are still waiting to be discovered. Around Dali there is a very high population density with formerly forested areas now intensively cultivated. There is easy access by road to 14,000 feet. Access is much more limited in the Yunlong Shan making botanising very difficult. A vast range of habitats was encountered in Yunnan, from low to high (including glacier edges) and from very wet to very dry.

In Linghai the plateau lies at 12,000-14,000 feet and consists of relatively flat grasslands and rolling hills but with a mountain backdrop rising to 22,000 feet. Highlights included *Podocarpus forestii*, of which only 3 plants survive, all within the built-up area of Dali (but seeds and cuttings were brought back to the RBG Edinburgh); and finding *Gentiana sino-ornata* in marshes at 11,000-12,000 feet, flourishing there because the ground is frozen in winter.

MD

25TH FEBRUARY

Caves, Caving and Wildlife

ALAN JEFFREYS

Mr. Jeffreys, an enthusiastic caver, first described how caves are formed in limestone areas, then listed some of the main areas of their occurrence in Great Britain, including in Scotland, Durness, Assynt, Skye, Appin and Schiehallion.

Exploration techniques have advanced tremendously over the past 40 years, bulky ex-services kit having given way to lightweight single ropes and clamps. The network of caves around Inchnadamph have been explored off and on since 1890, with particularly marked advances since 1978, including sump 8, where 18,000 year old Polar Bear bones have been found.

Scottish cave systems are not rich in wildlife, but groups of arthropods occur along with ferns, fungi and bats.

JEAN GALBRAITH

25TH MARCH

Birding and Wildlife in Namibia

SAM ALEXANDER

Mr. Alexander described a 2-week "whirlwind" birding tour. His talk was illustrated by some superb slides.

The tour was centred on the vast Etosha reserve in the North, which extends to 300 kms by 100kms. The country hosts a vast range of species e.g. 340 bird species including 35 raptors, about 120 mammals, over 50 snakes. The party visited a wide range of habitats including savannah, bush, pans, marshland, dunes and sewage farms.

Some familiar waders were encountered, e.g. Little Stints, but most were quite exotic to Scottish eyes: Hornbills, Weaver Birds, Flamingos, Springboks, Hartebeeste, Oryx, Rhino, Lions and Elephants were also encountered.

MD

22ND APRIL

Members Night

Geoffrey Harper had been on an Arcturis Expedition to Kamchatka the previous summer. Kamchatka and the British Isles are of similar size and lie at the same latitude. They lie at the extremities of Eurasia, and because of their resulting relatively isolated positions especially after the last Ice Age, both have relatively limited flora and fauna. Their climates are, however, quite different, Kamchatka having long cold winters. Another difference is that Kamchatka has ranges of volcanoes, many still active.

The dominant vegetation is Taiga (Coniferous forest). Just as Eurasia has few native species of conifer compared with North America, so Kamchatka has only one Spruce, one Larch and the only Pine, the dwarf Siberian Stone Pine, takes the form of krummholz (scrub) generally no more than 1 metre in height.

Neville Crowther illustrated 4 species of Moth: the 6-spot Burnett which flies by day and often feeds on thistles while its caterpillars feed on Birdsfoot Trefoil; the Cinnebar which favours sandy coastal areas; the Elephant Hawk Moth whose caterpillars feed on Willowherb and Bedstraws; and the Puss Moth which is found in lightly wooded areas with larvae feeding on Willow and Poplar. He discussed various aspects of their habits and those of their larvae.

Ian McCallum illustrated the various habitats on the Isle of Arran which the NATS party visiting there in June could expect to find, ranging from the raised beaches to the granite mountains. He also described some of the Antiquities.

Finally, Elizabeth Farquharson listed some outstanding amateur botanists from the time of James IV. Clergymen were prominent on the list: Gilbert White, Keble Martin and Pere David. Like the last of these, George Sherriff the diplomat also collected exotic plants abroad. Frederick, George III's father, founded Kew Garden. William Wheeler (of the William pear), Charles Darwin and Beatrix Potter were also mentioned.

MD

23RD SEPTEMBER

Newhailes - wildlife within a designed landscape

TONI HUBBARD

The winter season commenced with an illustrated talk by Toni Hubbard, who is a Ranger with the National Trust for Scotland. Newhailes has recently come into the care of NTS. The oldest part of the existing house was built in 1686 by James Smith on the edge of Musselburgh, and in 1709 it came into the hands of Sir David Dalrymple. During the Dalrymples' occupation the house saw a number of changes, having wings added and being turned around, so to speak (what was the back is now the front). In its early days the house stood in 85 acres of designed landscape, intended to look like a piece of countryside, with a couple of large fields at the front of the house (now at the back) and the whole estate surrounded by woodland. Lady Antonia Dalrymple left the big house in 1998, though still lives on the estate, and NTS took over management of both house and estate.

Toni described the present state of the grounds - neglected since the last war - and showed how they have in fact changed rather little over 200 hundred years, to judge by a late 18th century estate map. She expressed gratitude to ENHS members who have helped with compiling species lists for the estate. In fact many of the trees and more obvious herbs are not native species (Sycamore, both Chestnuts, Beech, Lime, Pink Purslane, Martagon Lilies, Periwinkle, Lily of the Valley, Spanish Bluebells, &c). The estate has quite a variety of birds, including Great Spotted Woodpecker, of which there were more before NTS removed dead Elms - a move now regretted. A full management plan is being finalised, so that in future they hope to avoid such biodiversity-challenging practices.

An interesting feature on the old map was a straight line extending away in front of the house, and this turned out to be a raised brick-built walkway across the fields to the boundary woodland, presumably for the convenience of the family and their house-guests wishing to take a constitutional across the managed rural landscape without such rural inconveniences as treading in cowpats. The walkway now sports a fine hedge, which it is hoped to retain in part if the path is resuscitated.

The questions session after the talk hotted up when management was raised. Toni was given liberal and dogmatic advice, to the effect that all the Sycamóres should be destroyed, Ash and other native woodland species should be planted, and the Himalayan Balsam should be eradicated - although there was one protest in defence of the Balsam. No-one quite dared to speak up in favour of the Giant Hogweed, also threatened with annihilation.

GH

28TH OCTOBER AGM

Practical Conservation in the Lothians

COLIN PULHAM

Colin Pulham, co-ordinator of the Lothian Conservation Volunteers, gave an excellent talk, illustrated with slides. The Lothian Conservation Volunteers were started by the Scottish Wildlife Trust in the early seventies to undertake work on its Reserves. From small beginnings, the Group has grown until it is now providing over 750 'work days' a year. The Volunteers normally go out each Sunday fairly locally although the programme includes some longer weekend trips; and they work in all weathers.

Transport is in their elderly van, which is an essential part of their operations. Funding is a problem. No charge is made to the SWT, but a donation is received from Lothians Branch and a grant from SNH, and a charge to cover van running expenses is made to other clients. The Volunteers themselves have fund-raising events to provide tools.

Types of work include tree planting, coppicing and felling, Rhododendron bashing, dry-stane dyking, erecting wire fences in upland areas, putting in and unblocking drains, making and repairing paths and steps, and managing dune areas by containing Sea Buckthorn. In fact, you name it and they'll do it! Colin explained the reasons why work was required and some of the difficulties encountered. He even demonstrated how bill-hooks and monkey-strainers work, and we now know what a New Zealand Box is! We saw slides of these activities in an amazing number of areas - the Pentlands, Gladhouse Reservoir, Gullane Dunes, Aberlady, Craiglockhart Hill, the Mull of Kintyre, Killiecrankie and the Isle of Rum. Sensitive management of areas such as these is required, and it is clear why the Group's services are in such demand.

It is also clear that the Lothian Conservation Volunteers are a happy sociable group with mid-week ceilidhs, pub nights and other social events as well as hard working days at weekends. The Group is run by a committee of ten who meet each month to plan ahead. New volunteers are found from posters and display boards in libraries, advertisements in the 'Herald' & Post' and, recently, from their web-site on the Internet.

MC

25TH NOVEMBER

The Trouble with Badgers



IAIN DEWAR

Iain Dewar, a lecturer at Oatridge Agricultural College, spoke to the society. The European Badger - *Meles meles* ranges from Ireland to Japan, and from north of the Arctic Circle almost to the Tropics. Although originally a woodland animal - like our Red Deer - in parts of Britain it has been marginalised, but is adapting well to open habitats such as cattle pasture. It has also lost its natural enemies such as Bears, Lynx and Wolves, so that it is now at the top of its food chain. However, as we learned, that does not mean it enjoys a trouble-free life.

The Badger is a mustelid, which means that it is related to Otters, Weasels, Stoats, and Martens. They are all carnivores, but the Badger is in some ways the odd one out. Besides being a far more social animal, a glance at its teeth shows the back molars to be flattened, and thus well adapted to cope with nuts and seeds. Iain described the delights of dung analysis, which shows that local Badgers have a very catholic diet, including - in ascending order - 'etc', fruit, mammals (including the occasional Hedgehog), cereals, insects, and - about half the intake - earthworms. On a damp night Badgers are out on cattle pastures, simply 'hoovering up the worms', as Iain put it. A badger also has an extremely powerful bite and Iain suggested that the bone structure of the head may have developed to protect the animal from dislocating its jaw. As the lower jaw is attached to the skull, dislocation only occurs if the bone is broken.

The Badgers' world is very different from ours - being understood not so much through sight as through hearing and particularly scent. They have subcaudal scent glands, and scent mark using faeces, urine and the gland's secretion. They recognise other members of the same clan by acquiring each others' scents, and mark their territory boundaries with smelly latrine areas. Once a Badger has lost the scent of the other members of its clan it will no longer be recognised by them and will be rejected and persecuted by them even fatally.

Thus unless an injured animal can recover and be released back to its home territory quickly, it is kinder to put it down.

Their rather bear-like front paws and powerful 'body-builder' musculature also make them well adapted for digging. The system of setts in a territory can be quite complex, and is the centre of their social life; tunnels may extend to a kilometre or so. In cross-section the tunnel suits this short-legged animal, being wider than high, whereas a fox hole tends to be higher than wide.

Having addressed the second half of his lecture title first, Iain turned to the first. The big problem in badgers' lives is..... us. For a start, about a third of the badger population each year is killed on the roads. Great efforts were made to reduce the toll on the new M8 extension, but not entirely successfully. Badgers do not like long narrow tunnels under roads, offering no scope for an escape route half way through it, and larger-diameter tunnels, which could be used by deer too, might be more acceptable. Less conspicuous casualties are also caused by heavy forestry machinery crushing setts and tunnels, and by gamekeepers inadvertently catching Badgers in snares meant for Foxes. It is unfortunate that the two species tend to use the same paths, logs across rivers, and sometimes holes, since snares set for the one, which is vermin, often catch the other, a protected species.

Besides these forms of accidental persecution, Badgers are intentionally disturbed by developers eating into their territories or destroying them altogether. The Badgers on Corstorphine Hill, for instance, are now entirely surrounded by built-up areas, and they are adapting by entering gardens. In case anyone immediately thinks, 'How wonderful!', Iain had this word of warning: don't encourage Badgers into gardens, and don't feed them. To underline the point he told the graphic story of somebody's house being undermined by Badgers taking up residence underneath it. Some developers have moved Badgers from land to be developed to an artificial sett in another area; but this kind of translocation rarely works.

Worse than developers are the baiters. A Badger for baiting can fetch in the order of £1000, and now that it is more difficult to obtain them in England - owing to vigilance by Badger groups - baiters are turning to Ireland and Scotland for the animals.

GH



ACKNOWLEDGEMENTS

THE JOURNAL EDITOR MUST THANK ALL THE MANY CONTRIBUTORS FOR PRODUCING SUCH A VARIETY OF ARTICLES. THANKS ARE ALSO DUE TO THE FOLLOWING PEOPLE:

JACKIE MUSCOTT, ERIC PERRY AND KARIN SCOTT FOR THEIR LOVELY DRAWINGS;

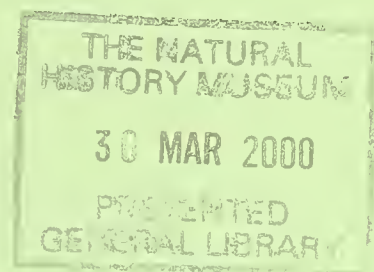
THE JOURNAL COMMITTEE FOR THEIR METICULOUS CHECKING OF THE DRAFT;

AND TO LYN BLADES FOR HER USUAL CALM AND GOOD HUMOUR.

SOCIETY EQUIPMENT

In addition to books held in the Library, the Society has various other items which can be borrowed by members for their private use, including LP records of birdsong with accompanying booklet, and a recording of Grasshoppers. Needless to say, members will be responsible for the care of books and equipment on loan.

- Telescope:** A Bushnell Spacemaster of 20x-40x magnification, in carrying case and a car window mount for in-car use.
Apply to Miss Molly Woolgar (Tel. 0131 667 2688)
- Microscopes:** A number of high and low power microscopes.
Apply to Miss Margaret Perry (Tel. 0131 447 3515)
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- Mammal Traps:** Twenty-four small mammal traps.
Apply to Mrs Elizabeth Farquharson (Tel. 0131 447 1994)
- Photographic slides:** A comprehensive slide collection left to the Society by Miss Janet Raeburn. The subjects are mostly botanical but also include birds, mammals, butterflies and Scottish scenery. They are kept in the Library.
- Bawsinch Key:** The Bawsinch Nature Reserve at Duddingston is managed by the SWT, who allow the Society to hold a key for members to have access to the hide overlooking Duddingston Loch.
Apply to Mr Jim Stewart (Tel. 0131 447 4210)
- Computer Scanner:** If you would like anything scanned -
Apply to Sandra Stewart (Tel:0131 441 2641)



Journal 1999

March 2000

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1999



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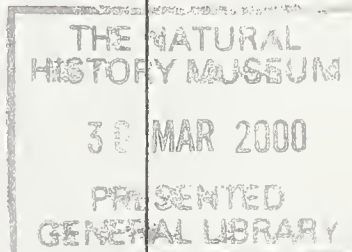
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PRESIDENT'S NOTES



Writing as the end of the Millennium approaches provides an opportunity to take stock. It appears to me that the Society is in excellent shape.

The Journal has now reached its 35th number since its launch as a newsletter by Michael Usher. No count is taken of attendance at indoor meetings, but the hall at recent meetings has been fuller than I can remember. Given reasonable weather, attendance at excursions, summer and winter, has been constantly high. What used to be occasional longer field trips extending over several days have now become annual events and attract around 40 members.

A new departure for the Society is the adoption of a half hectare of the Carrifran Wildwood in Moffatdale as part of the project to restore native woodlands there, described by Philip Ashmole elsewhere in this Journal. A few trees have now been planted and as a Society we will be following the project with interest.

It is hoped that by the time you read this the accustomed Library service will have been resumed. The interruption was due to temporary loss of a place to house the stock somewhere accessible to the Librarians. This problem has now been overcome. I would encourage members to take full advantage of this service.

An interim home for the shelves and boxed books is one of the many things for which we are greatly indebted to our Honorary President, Elizabeth Farquharson.

With the continuing support and enthusiasm of Council and members, I am confident that the Society will continue to flourish.

MUNRO DUNN

OBITUARIES

Persis Aglen, who died on Palm Sunday 1999, had only recently joined the Society. Nevertheless she made a certain impact: she was the lady recorded as falling on her knees before the Oyster Plant in Arran (see last year's Journal). She came to botany late in life but took to it with great enthusiasm. I enjoyed her companionship and I shall greatly miss our joint excursions.

Elizabeth Landells was a very gentle, sweet person admired by everyone. She was a member of the Society for a very long time, her main interest being birds. She will be greatly missed by all her friends in the Society.

Mrs Calder Mr and Mrs Calder joined the Society as Life Members in the 1960s. They regularly attended excursions, often accompanied by Peter Gunn. They enjoyed walking in the Pentlands and surrounding districts. Mrs Calder died in April; her husband predeceased her.

LIBRARIANS

The Council considered returning to the newly refurbished Water of Leith Conservation Centre premises but decided against it because of the very high cost which would have been entailed.

A new home has been found for our books in the St. Ninian's Church, Corstorphine and we are in the process of selecting books, many of them duplicates which will be sold at reasonable prices, at the indoor meetings. The money raised will be used to update the library.

Once the relocation is complete, anyone wishing to borrow books can do so by arrangement with the librarians. The most convenient time will be on a Tuesday morning between 9.30 and 12.30. Just phone Bob or Joyce on 0131 334 5501.

BOB AND JOYCE MARKS

• CARRIFRAN • WILDWOOD

Ecological restoration has taken hold more slowly in Britain than in the Americas. I became aware of the concept several decades ago on hearing of pioneering efforts to restore tropical forest in Costa Rica, but at that time environmentalists on this side of the Atlantic were generally preoccupied with more or less desperate conservation efforts; they were trying to save special plants and animals or fragments of natural habitats under pressure from mechanised agriculture, peat exploitation and many types of development.

As a British ecologist coming to the Scottish Borders in 1972 after a decade in North America, I had been impressed by the beauty of the naked hills, but disconcerted when I realised that the landscape was ecologically degraded: that if it had not been for the activities of man and his domestic animals, a diverse broadleaf forest would have covered the greater part of these hills.

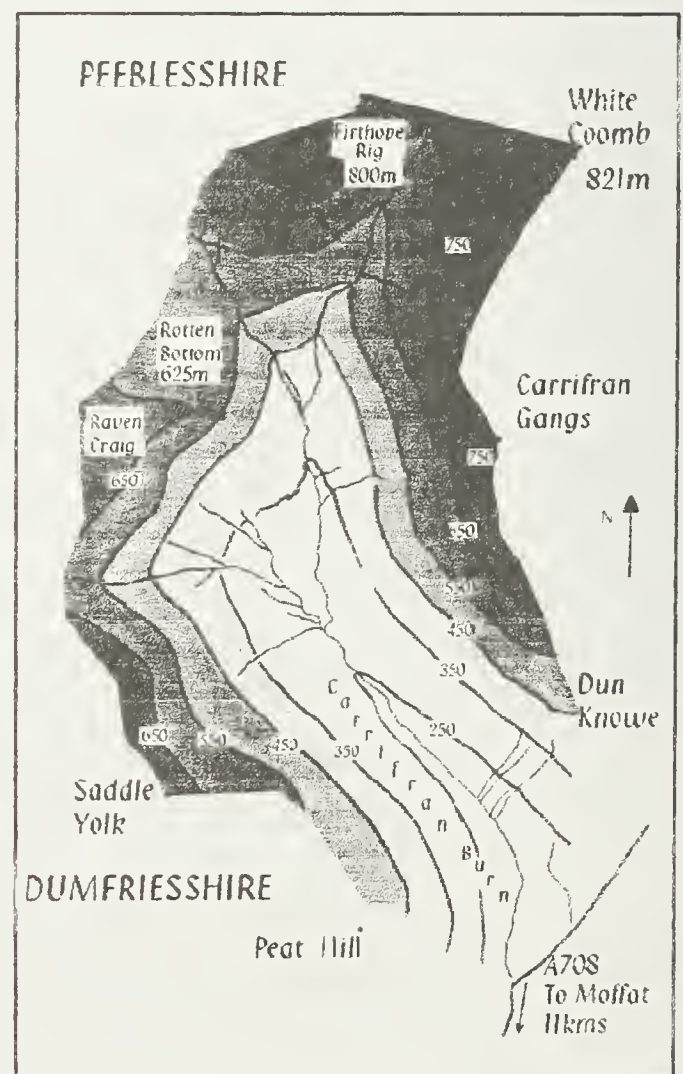
It was twenty years before this nagging unease led to anything more constructive, and it was other people in Scotland - especially Bernard Planterose, Donald McPhillimy, Alan Watson, Andy Wightman and Chris Badenoch - who provided the stimulus. In different ways, these pioneers were promoting the then radical idea that we should try to repair some of the damage done to the Scottish environment by our forebears, by reinstating woodland habitats akin to those that had existed in the past.

In the early 1990s there was much talk of restoring Caledonian pinewoods, which had been decimated in recent centuries, but little attention was being given to the broadleaf woodlands of the Southern Uplands, which had suffered even more severely and for a longer period. The Restoring Borders Woodland conference, held at St Boswells in November 1993, was organised by activists in Peeblesshire Environment Concern, a group of ordinary people who realised the value of the adage "Think globally, act locally". It was investigation of ancient woodland fragments in the Borders that sparked the idea of trying to reinstate - as far as this was practicable - the natural ecosystem of a whole small valley.

Buying a valley is not a simple enterprise in the absence of capital and it was only when the launch of the National Lottery led to creation of the Millennium Forest for Scotland Trust, that an ambitious restoration project began to seem realistic and the forty-strong Wildwood Group was formed in Peebles.

As it turned out, lottery money was not available to help with land purchase, but the fuse had been lit. On 1st January 2000, the Borders Forest Trust - formed as an umbrella for a variety of native woodland initiatives including the Wildwood project - became owners of Carrifran, and 100 people came to mark the new millennium by planting the first trees.

Although the task of restoration at Carrifran is only now beginning, it is a good time to look back and try to identify some features that have brought the project to the threshold of success. First, the Wildwood Group was based on a core of local people who had gained confidence by working together on a variety of successful grass-roots educational projects. Second, the group included enough people with expertise, or with links to professionals in ecology, forestry and other relevant disciplines, for the credibility of the project to be established. Third, the project was founded on a vision that was clear, ambitious, and idealistic enough to catch the imagination of ordinary people who cared for the natural world for its own sake, not valuing it merely in terms of potential future benefits to humans.



Finally, there was a determination to maintain 'ownership' of the project, so that no-one could forget that it would succeed only through the voluntary efforts of the group members.

The idea that a small community group could raise a third of a million pounds to buy a valley, without tapping public funds, made many people frankly sceptical when the fundraising campaign was launched in early 1998. From the start however, the response from the public was extraordinary, and by the final deadline for purchase in December 1999 more than 500 people, from Scotland, England and around the world, had become Founders of Carrifran Wildwood by contributing £250 or more.

Apart from the efforts of the Fundraising Subgroup, the main activities had been preparing a management plan setting out our intentions for the restoration of natural vegetation in the denuded valley, and collecting seeds and propagating planting stock; we sometimes felt that it was only these latter practical tasks that maintained our grasp on reality.

Now the Wildwood project is maturing. A full-time Project officer, funded by Scottish Natural Heritage, started work in January, and the planting plan for the first five years was approved by the Forestry Commission under the Woodland Grant Scheme. Contracts for fencing and planting have gone out to tender and potential sources of finance for the decade-long restoration programme have been identified.

So where does this leave the volunteers, Founders and other donors? First, they can justifiably feel that their contribution is helping to restore and enrich a small part of the planet that we shall bequeath to coming generations. Second, there is a chance to continue to help, either by joining work parties or by giving further financial support. On the latter front our main concern is not with immediate capital costs, but with the need for funds to maintain the project over the long term. For this purpose we are inviting contributions under a stewardship scheme, involving regular direct debit payments, capital gifts, or legacies.

Supporters who live nearby can give practical help. Volunteer planting days started in February 2000, and will continue throughout the coming decade. Information about these and other aspects of the project can be gained by visiting the project website: www.scotweb.co.uk/environment/wildwood/ or by becoming a member of The Borders Forest Trust. The individual subscription rate is £10.

For naturalists, there will be opportunities to contribute in other ways. If we are to gain full educational value from the project, and if groups in other places are to benefit from our experience, we have to record what we do and what happens in the valley over the coming decade and the ensuing century. One strand in this recording effort will be documenting the trees that we plant and their fate. Experience gained in the early years, of success and failure of different kinds of trees, treated in different ways and planted in different places, should help us to increase our rate of successful establishment as the project proceeds.

Another strand will be study of the biological changes in the valley that we generate indirectly by our activities. We need to document the changes in the vegetation that follow from fencing out domestic animals and from the eventual closure of the canopy in large parts of the valley; to monitor colonisation by species of birds, insects and other animals that cannot live at Carrifran now, but whose needs may be satisfied as the woodland develops; and over the longer term, to observe the way in which the hydrology and soils in the valley change as a functioning woodland ecosystem develops.

Some monitoring may need to be done under contract by professionals, but there is much scope for input by amateurs who can bring to bear their own viewpoints and expertise. During the coming months, the Project officer and the members of the Wildwood Group will welcome suggestions relating to any aspect of this work, as well as offers of physical help with the enormous task now facing us. If you would like to contribute in any way, please get in touch with **The Borders Forest Trust, Ancrum, Jedburgh TD8 6TU; tel: 01835 830 750.**

DR. PHILIP ASHMOLE
CARRIFRAN WILDWOOD GROUP

Dr. Ashmole told the Nats about the Project at the October Winter Meeting. There is an outing planned to Carrifran for **Saturday 26th August 2000.** (See Summer Programme).



MINK AND SEABIRDS IN WEST SCOTLAND

In the twentieth century, North American Mink were introduced to Britain to be farmed for their fur. Many escaped or were released. They have bred very successfully in the wild and are now common throughout much of Britain. This article describes some of the effects they are having.

Although sometimes seen in daylight, mink are mainly nocturnal and sightings show only the tip of an iceberg. They are usually found living along rivers or rocky shores. Males seek out females for mating in early spring, but the males then take no part in raising the young, which are born in April or May. In late summer, parties of the mother and three to six fully-grown young are sometimes seen. By then the male young are bigger than their mother and these family groups sometimes give rise to stories of 'packs' of wild mink. In autumn the groups break up and the young have to fend for themselves. To survive, each young mink has to find a territory and defend it aggressively against other mink. Throughout most of the year mink live singly in territories of about one or two kilometres of suitable shoreline or river.

Why are mink a problem and why should we be concerned? There are two ways in which mink attract our attention. In some areas of Argyll, attacks by mink on free-range poultry are annual, usually in autumn when young mink start to live independently. Some people have reacted by simply giving up trying to keep free-range hens or ducks; others trap routinely around their holdings.

The other impact of mink is on wildlife. Mink always live near water, although they are somewhat less aquatic than otters. Mink have had profound effects on certain groups of their prey. In the nineteen-sixties, I remember, water voles were common over much of lowland Britain. The sound of a "plop" as they entered a river, followed by the glimpse of a dark shape silently swimming, was so frequent on riverside walks that we took it for granted. Now water voles are extinct over much of Britain and mink are one of the two main reasons, the other being habitat loss.

In Argyll and Lochaber mink are having serious effects on seabirds. Before mink arrived, the many small islands of sealochs, firths and sounds provided ground-nesting seabirds with breeding places that were safe from land predators such as foxes, stoats, weasels and hedgehogs. Mink have changed all that. They are excellent swimmers and often reach small islands a mile or more from land. This was how I first became aware of them. Since the mid-eighties I have been studying the breeding success of terns and gulls in this area, where seabirds nest almost entirely on small islands. Over a large study area, from Mallaig in the north to West Loch Tarbert in the south, I found that many colonies were rearing no young at all, and investigation showed that mink were usually the reason. Mink tend to take all the eggs and chicks but they kill relatively few adult birds. Most of the prey is hidden uneaten. Often it is

hidden so well, typically in dense vegetation or in rock cavities, that you have to look quite hard to find it. These whole-colony breeding failures are widespread, sometimes about half the colonies and half the overall population being affected over a wide area.

The final stage in this sequence takes place after mink have caused whole-colony breeding failures on groups of islands for several successive years. Then well-defined areas, such as whole sealochs, firths and sounds, lose all or almost all their breeding seabirds. This endgame has already been reached in several areas (the Sound of Luing, Creag Island Group in L. Linnhe, L. Caolisport, L. Crinan, L. nan Ceall, L. Sunart, L. Teacuis, L. Creran and elsewhere). Each year I have visited and documented the mink predation and whole-colony breeding failure, leading after several years to complete colony loss, of some superb mixed colonies, notably the Shag-Black Guillemot-large gull colony at the beautiful islands of Eilean nan Coinean-Eilean Fraoich, just south of Carsaig in the Sound of Jura.

If birds cannot breed adequately their total numbers decrease as the adults which die from all causes are not replaced by new young. That is what is now happening here. Five species - Common, Black-headed and Herring Gulls, Common and Arctic Terns - are each decreasing at about 5-7% a year. This may not sound much, but both the cause (widespread mink-related whole-colony breeding failures of this group of birds) and its effect (the small annual decrease in adult numbers) are repeated every year so that over many years the effect becomes noticeable. The saddest losses have been the terns. In 1987 this area, which is small in national terms, contained 1839 pairs of Common Terns or one eighth of the British Isles total, with 20 colonies of ten or more pairs. By 1998 there were 954 pairs with only four colonies of ten or more pairs. There have been similar decreases and local disappearances of Arctic Terns and Common, Black-headed and Herring Gulls.

The effects of this new predator emphasise the fine adaptive balance that often exists between native predator and prey, a balance that probably evolved over millions of years as both changed in response to changes in each other. Many times I could not help thinking, as I walked through colonies where all the young had died after mink predation, that these ground-nesting terns and gulls are simply not adapted to the presence of mink. The gradual mink-related decrease of adult numbers is the key finding of this work. If seabirds were able to maintain their numbers

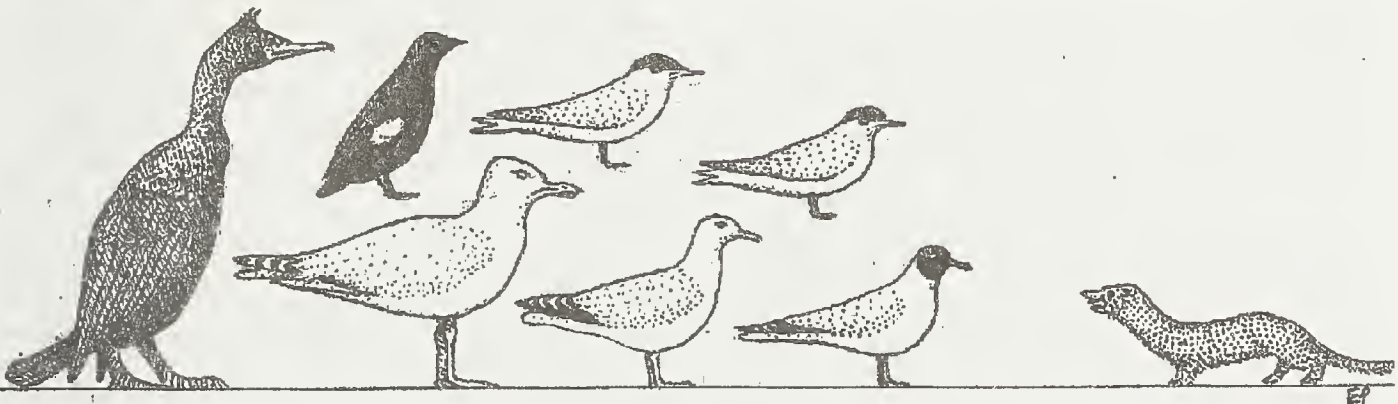
in its presence, we might be more welcoming to the mink.

It is for this reason that the mink-seabird programme was started in 1995. It aims to save the more important of the remaining seabird colonies, including the largest colony of Common Terns in the British Isles (772 pairs in 1999, or over 5% of the British Isles total). This was first attacked by mink in 1989 and again in several subsequent years. If mink had not been successfully controlled there since 1995, this fine colony would very likely have disappeared, just as many other tern colonies affected by mink have done.

Mink are having more measurable effects on seabird numbers and distribution than all the terrible oil spills of recent decades, from Torrey Canyon through Braer to Sea Empress and even including the Gulf War! (For example, the 48% mink-related decrease of Common Terns in my area is in itself about 6% of the British Isles total. Oil spills, which tend to be

mercifully localised, rarely have such large effects.) Yet the mink / seabird story gets much less publicity. Terrible though such oil spills are, surviving birds are able to breed and after a few years, numbers are back to normal. The crucial aspect of mink predation is that the birds are unable to breed adequately, but this is not easy to detect or (more important) show on TV. The breeding failures won't even be noticed unless someone is measuring breeding success each year at a suitable number of tern and gull colonies. The longer-term effect, the decrease in adult numbers, is slow and relentless but likewise cannot be detected unless someone is accurately counting many colonies over many years. What has happened in Argyll and Lochaber will be repeated as mink spread throughout more of the sealochs and sounds of Scotland's west coast -- unless local people trap mink locally to protect their local colonies of seabirds.

CLIVE CRAIK
Scottish Association for Marine Science,
Dunstaffnage Marine Laboratory, Oban



HABITAT ENHANCEMENT CONFERENCE

12 APRIL 1999

I attended the above conference in the Thistle Hotel in Glasgow as the sole representative of the Society. The conference was run by SEPA, COSLA and Glasgow City Council. The aim of the conference was to promote awareness of aquatic issues in order to bring about an improvement in the way in which aquatic habitats are managed.

There were several very good speakers including Stuart Housden, Director of RSPB Scotland.

The Earth summit in Rio in 1992 gave rise to the UK Biodiversity Plan in 1994 which established a planned approach to conserving and enhancing biodiversity through identifying priorities for action and setting clear objectives to allow progress to be monitored.

The main topics of discussion included : Farming and watercourse management; Management of river courses in built up areas; Pond, standing water & wetland areas; River enhancement study; Habitat improvements in fisheries (River Ugie); and Planning for habitat enhancement.

I spoke to Professor Maitland regarding the build up of oestrogen in rivers. He said that he was not 'au fait' with the latest position, but that ongoing investigation work was being carried out in the East Kilbride laboratory.

One of the excellent projects which was an illustration of the practicable ideas promoted was the management of rivers in built up areas. A straight stream which gave the impression of an open ditch was transformed into an attractive meandering stream with interesting vegetation and a pedestrian walkway. Although the accent of the conference was biodiversity, there was no support for the much maligned Ruddy Duck which is doing its best to diversify and is getting shot for its trouble.

IAN C MCCALLUM



Action Plan Fungus

The need to select three species of fungi to be included among the 100 species to be studied in the Edinburgh Biodiversity Action Plan has generated discussion among the interested parties as to whether there is any known action which can lead to the conservation of a fungus or even encourage its fruiting.

At the outset, it was decided that the opportunity of selecting species for study should not be wasted by selecting those which were known simply because they had attractive popular names. It was decided to choose species which would bring to the attention of the public and interested organisations the importance of particular habitats and organisms which might be associated with fungi.

We chose the beautiful waxcap *Hygrocybe calyptriformis*, a fungus already well-known as *The Ballet Dancer*. It is typical of organisms which thrive on unimproved semi-natural grassland on well-drained soil in open situations. Secondly we chose a fungus which would bring attention to the value of dead wood. The *Porcelain Fungus* (*Oudemansiella mucida*) was chosen because of its important ecological role in breaking down structures and in recycling the nutrients which are present in dead wood for the benefit of other organisms. Finally *Phaeolepiota aurea* was selected because although relatively rarely recorded in the UK it has been recorded in Edinburgh. This large and statuesque fungus can occur in profusion in scrubby disturbed ground - areas which can easily be under-regarded but can provide useful botanical hunting grounds.

In order to get this fungus accepted it had to be awarded the common name *The Golden Sock* - an appropriate description of the floppy ring turned downwards on a sturdy stipe.

Having chosen the species we have had to weather some criticism! *Oudemansiella mucida* grows on Beech trees - not a native species. This fungus also has an embarrassment of common names and at first we selected that which we considered to be used most commonly - *The Poached Egg Fungus*. However these problems have paled into insignificance compared with the difficulty of finding a specimen of any of the selected species within the Edinburgh area. Ironically a beautiful specimen of *Phaeolepiota aurea* was brought from Glentress Forest to an outing at the Bush Estate. On the same outing we saw many fine examples of *Oudemansiella mucida*. - but not in Edinburgh, of course! At long last a Society member was alerted to a young specimen of *Hygrocybe calyptriformis* in a neighbour's Edinburgh garden. This last specimen is our sole valid record for the selected species for this year!

Is it worth our while to concentrate our efforts and time on the search for particular species or should our time be spent on more general surveys allowing serendipity to determine our records? Perhaps it would be better to visit and re-visit the same sites to record what occurs with changes in seasons, weather and local conditions. As will be seen from another article (Fungi on the Doorstep) there is something to be said for taking regular note of what is under our feet or within easy reach.

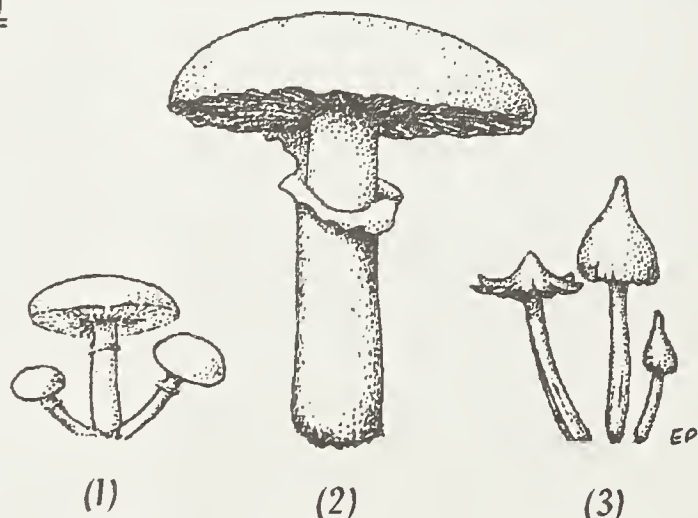
EUNICE MCA. SMITH

(in association with M. Clarkson and E. Farquharson)

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EDINBURGH'S ACTION PLAN FUNGI

- (1) OUDEMANSIELLA MUCIDA
(Porcelain Fungus)
- (2) PHAEOLEPIOTA AUREA
(The Golden Sock)
- (3) HYGROCYPE CALYPTIFORMIS
(The Ballet Dancer)



FUNGI ON THE DOORSTEP

My experience this year has been of many interesting local fungus finds. Within the garden *Amanita rubescens* and *Russula aeruginosa* appeared as usual under the Birch trees. A squirrel was observed removing half of the Russula! In July a species new to the garden was noted when two spectacular red-gilled *Melanophyllum echinatum* were found clinging to the side of a small hole (made by a stick) in the back garden.

The ephemeral yellow-coloured *Bolbitius vitellinus* and species of ink-caps appeared growing on pathways covered by wood chippings. A puzzling set of three white 'cups' on the same pathway posed a taxonomic problem as, although the 'cups' were obviously fungoid, no spore-bearing surface could be found. The mystery was solved a week later when seven complete specimens of *Volvariella speciosa* were found nearby and it was realised that, yet again, the squirrels had probably had a good meal.

In past years *Agaricus bohusii* * and other unidentified species of *Agaricus* have occurred in the nearby Davidson's Mains Park. One year a large group of *Leucopaxillus giganteus* appeared on the side of a small hill like a ground-borne cloud. Another autumn an area of ground protected from foot traffic by a fallen branch brought forth a profusion of Russulas. This year however the fungus harvest was of brown *Pezizas* and an occasional specimen of *Tricholomopsis platyphylla*.

The neighbouring grounds of The Royal High School also contributed to the fungal finds. The most spectacular find was triggered by a phone call from another Society member who had found many specimens of the Earth Star (*Geastrum triplex*). In the hope of finding one specimen we went to survey the school grounds and did indeed find one, and another, and ... and gave up counting at 84! A follow-up visit about 2 weeks later found less evidence of the Earth Stars but more than thirty specimens of the Yellow Stainer mushroom (*Agaricus xanthodermis*). Other fungi found alongside the driveway to the school have been *Collybia confluens*, *Polyporus squamosus*, *Coprinus comatus*, *C. atramentarius* (group), *Phaeolepiota aurea* (in 1984) and many others.

In the past, the pavement edges have borne *Aleuria aurantiaca* and *Lacrymaria velutina*. A neighbour regularly has *Auricularia auricula-judae* on a garden Buddleia and there have been specimens of *Daedelopsis confragosa* nearby. At the time of writing, the Velvet Shank (*Flammulina velutipes*) adorns the stump of a Horse Chestnut tree.

If you call you will probably find fungi on our doorstep waiting in the cool in the hope of, identification before putrefaction sets in! However since it may be on 'your doorstep' too - why not keep a record of it?

EUNICE MCA. SMITH

* For a description and illustration of this fungus see Bresadola's *Fungi Europae* Vol. 1 page 418 in RBG Library. EF

HERMITAGE OPEN DAY

The Society were invited to take part in 'Edinburgh's Wild Fling' at the Hermitage of Braid on Sunday 30 May. Many other organisations with interests in natural history also took part.

A cold and depressing Saturday did not augur well for the event the following day. However when morning came the sun shone and many members of the Society arrived to lay out tables and exhibits. We had been allocated an excellent spot beside the Visitor Centre and were able to display our wares without difficulty. We had the advantage of several notice boards on which were placed posters and photographs. One of the notice-boards was decorated spectacularly with a complete Fox fur. Two games were provided to sustain the interest of the younger visitors. The other displays included skulls, fungi, cones, shells, nests, insects, rocks and items of botanical and other interest. A stereo magnifier and a microscope were available to provide a closer view of some of the objects. There were sufficient members of the Society to maintain contact with the public and answer their questions.

A wildlife quiz (reproduced on page 10) had been prepared and the adult visitors were invited to attempt it. The quiz stimulated quite a lot of discussion. Free membership of the Society for one year was offered to the three best entrants. Those who were already members of the Society and who submitted high quality returns (!) were offered a free copy of The Field Club Flora of the Lothians (1934). This book was also available for sale.

The Hermitage staff were very welcoming and the event was well patronised. Young and old seemed to find much of interest in the displays. Those of us who managed to slip away and look at other stalls felt that it was a worthwhile event. It was particularly encouraging to note the support given by members who had travelled a long distance to take part. One and all, whether visitor or participant, wended the homeward way tired but happy, talking of what had been seen and done during the day.

EUNICE MCA. SMITH

Quiz



A _ _ _ _	Poisonous snake.	N _ _ _	Amphibian.
B _ _ _ _ _ _ _ _	Lepidoptera.	O _ _	Quercus.
C _ _ _ _ _	Tuberous or Russian.	P _ _ _ _ _ _	Mountain Grouse.
D _ _ _	Roe, Sitka or Red.	Q _ _ _ _ _ _	Hard white rock.
E _ _ _ _ _	Brackish water likely here.	R _ _ _ _ _	Poisonous to cattle.
F _ _ _ _ _	Sulphur Tuft.	S _ _ _ _ _	More likely to be Grey than Red.
G _ _ _ _ _	Study of Rocks.	T _ _ _ _ _ _ _ _	Most common bird in the Scottish Lowlands.
H _ _ _ _ _	Ivy.	U _ _ _ _ _	Nettle.
I _ _ _	Holly.	V _ _ _ _ 's	Possessive of Bugloss.
J _ _ _ _ _	Evergreen conifer.	W _ _ _ _ _	No black in the tail.
K _ _ _ _ _	A hovering raptor.	X _ _ _ _ _	Candle-Snuff.
L _ _ _ _ _	Association of an alga and a fungus.	Y _ _	Taxus baccata.
M _ _ _ _ _ _ _	Town-Hall Clock.	Z _ _ _ _ _	Study of animals.

This quiz was offered at the Open Days at The Hermitage of Braid and Cammo.

OPEN DAYS OPEN DAYS OPEN DAYS OPEN DAYS OPEN DAYS OPEN DAYS OPEN DAYS OPEN DAYS OPEN DAYS

CAMMO OPEN DAY

A Family Fun Day was held on the 19th September at Cammo Countryside Park on the NW outskirts of Edinburgh. This annual event is organised by Edinburgh Countryside Rangers and is supported by many local natural history and environmental groups. Visitors are mainly local and activities provide interest for all age groups. The ENHS manned displays. Small children and their parents tried Bug Life - an invertebrate quiz board game.

A good display of fungi and other items collected around Edinburgh attracted much interest. Visitors were invited to take part in the Competition to win a Flora.

There was a variety of other activities. Ranger-led walks in the grounds introduced people to the area and its wildlife. Against a backdrop of the ruined house, actors produced a vignette of 'The History of Cammo'. The chance to handle birds of prey was a highlight for many. Visitors tried their hand at bodging and turned pieces of wood. Children made willow rattles and bells.

Beside the gate lodge were many restored engines: grading produce, pumping water and threshing oats, whilst others awaited restoration. Friends of Cammo promoted awareness of the area. For many children the day came to a sticky end with the chance to persuade parents to buy candy floss.

ANSWERS to QUIZ

Adler; Butterflies; Comfrey; Deer; Estuary; Fungus; Geology; Hedera; Ilex; Juniper; Kestrel; Lichen; Moschatel; Newt; Oak; Ptarmigan; Quetzite; Ragwort; Squinell; Troglodytes; Urtica; Vipers; Weasel; Xylaria; Vew; Zoology

SARAI AND DAVID ADAMSON



NOTES FROM A RANGER'S DIARY 1999 AT HOPETOUN



Severe gales on Boxing Day 1998 and on the 4th of January in the New Year brought down several large trees as well as the storage shed in which equipment and parkland furniture were kept over winter. Hardly a good beginning! We lost the ancient Beech at the SE corner of Bowling Green Vista, a large Oak nearby, a second giant Beech in the South woods and another east of Abercorn Castle. A large Lime fell into Dial Park and a huge Oak on Sea Walk also fell, as well as several conifers, Birch, Holly and Yew throughout the parkland. The falling giants also caused a lot of secondary damage, bringing neighbouring trees down too.

When we opened for the season at Easter, weather was very cold with persistent haar. April continued cold with snow, night frosts and hailstones on Sunday 18th when the Spring Flower Walk had been arranged! No takers! Work had been going on all winter with the restoration of the Walled Garden project, a mammoth task. The Round Pond restoration project began in April.

The first Swallow was seen on Saturday, 24th April; it flew around in thick haar, singing away, until joined a week later by a few others. By May they were taking advantage of the mud exposed at the pond. Primroses, Daffodils and Cherry blossom were all lovely. It is strange how one can walk along a familiar path when suddenly something catches the eye as different. This is how I noticed a small Cherry tree with arching branches below Hopes' Walk. Unable to identify it, I took a specimen along to the Royal Botanic Garden experts and learned that it was St. Lucie Cherry (*Prunus mahaleb*). It's always satisfying to find something new, but I am upset when a species is lost, so on 16th June I was delighted to find eight splendid spikes of the rare Birdsnest Orchid (*Neottia nidus-avis*), a saprophytic species, on the roots of Oak.

The first Red Deer calf was seen on 10th June, born into a cold, wet world. It wasn't until 25th June that I noted "a lovely day - at last!" I have never seen so much activity in the grounds as there was towards the end of June: machines of every kind as the pond project steamed ahead, trenches being dug, cables laid, turf put down, lawn edges trimmed, new gravel spread and finally the pond slowly filling. All culminated in the visit on 7th July of Prince Charles, who turned on the fountain of the now fully restored pond. Magic moment!

Most of the wildlife had scarpered due to so much disturbance, except of course those twin pests, Rabbit and Grey Squirrel. So it was very amusing to watch a Fallow doe and fawn jumping 'in sync' with a horse competitor at the Horse Trials in the South Deer Park.

From July onwards garden produce, vegetables, cut flowers and pot plants went on sale at the shop. In the garden it was a pleasure to see the orderly rows which attracted so many Bees, Hoverflies and Butterflies to the flowers. Insects of all kinds soon inhabited the pond: Water Beetles (Whirligig Beetles), Water Fleas, Pond Skaters, Water Boatmen and Mayflies. An alga, possibly *Nitella* of the *Chara* genus, had spread quickly over the mud at the bottom of the pond and the water became very clear. I fished out several suicidal Voles, a Sexton Beetle complete with its mites and a species of Shield Bug (*Pentatoma rufipes*) a forest bug blown north by the warm weather. One day our Master of Works noticed swarms of midges and next day I found lots of them struggling in the water, so I took some along to Ena Gillespie who was able to identify them as a *Dilopus* species, a Fever fly, which as larvae feed on grass roots. These pupae were likely to have been in the turf laid around the pond in late June.

September was reported as the warmest since 1950. I walked around in shirt sleeves on the 28th, the day we closed for the season. The Swallows left Hopetoun that week but I saw a solitary bird flying around North End on 10th October. Buzzards have been seen regularly all year. A pair of Mute Swans took up residence on the pond in October.

A superb flora of Waxcap fungi (*Hygrocybe* species) appeared on the lawns. Nineteen species have been identified by Mary Clarkson. These include the "Ballet Dancer" (*Hygrocybe calyptriformis*), the Parrot Waxcap (*H. psittacina*) which is very beautiful and the white, sweet-smelling *H. russocoracea*. The names are quite poetic.

It is an exceptionally good acorn year. Yew and Holly berries are also abundant. A large flock of Fieldfares and Mistle Thrushes came in during October. This year we extended the season by opening each weekend in October. Visitors are pleased because they enjoy the autumn colours and the children love to collect the conkers. The last day, Sunday, 31st October was very stormy, a day of rainbows, one across the house in late afternoon; perhaps a good omen for its future in the Millennium. HOPE SO!

MARY ROBERTSON



THE BRITISH RED SQUIRREL

The British Red Squirrel, *Sciurus vulgaris*, is commonly distinguished from other red squirrels by its external appearance: seasonal bleaching of the tail and ear tufts and lack of a dark phase. In the past these traits have led zoologists to describe the animal as a separate subspecies, *S. v. leucourus* (Kerr, 1792, Ellerman and Morrison Scott, 1966, Laidler, 1980) or even as a distinct species: *Sciurus leucourus* (Barrett-Hamilton and Hinton, 1910-1921).



individuals from flourishing overseas populations. Specimens exhibiting bleached tails are not as common as they once were. This is possibly due to the introduction of continental races of *vulgaris* during the last three centuries. If there is still an identifiable British subspecies then further action of this kind may have a great impact on its survival and distribution. It would therefore be an opportune time to look at the variation within extant populations of British Red Squirrels. Do all British Red Squirrels have pale tails and, if not, do these populations coincide with known introductions or possible colonisations by European animals?

Thomas (1896) was the first to describe in some detail the seasonal changes that take place in the pelage of the British Red squirrel. The fur on the limbs and body moults twice yearly, once in spring and once in autumn. The summer coat is rich red in colour and stays this way until it is shed in autumn. The new winter coat begins as a greyish-brown colour but gradually bleaches throughout the winter to a dull yellowish brown. The tail and ear tufts, however, only undergo one annual moult, in autumn. During late August to September, long, blackish-brown hairs begin to grow. From then until the next moult a year later the hairs gradually become lighter. The blackish-brown hairs begin to fade through brown, yellowish-brown and straw to a creamy white colour. This colour change takes place due to the hairs bleaching, and not due to hair replacement. The degree of bleaching varies between individuals as does the exact timing; however, each individual passes through the same series of changes. In general, the winter coat is brownish-grey with the ear tufts and tail hairs being thick and black. Conversely, the summer coat is rufous with a pale yellow, thinly haired tail and ear tufts. Thomas studied the progress of tail bleaching in a single population from Dorset; he did not look at other British populations. It was only with the publishing of Thomas's paper that the bleaching process was considered a countrywide phenomenon restricted to Britain.

Throughout time, the presence of the Red Squirrel in Britain has fluctuated greatly. Numbers have decreased rapidly in the latter part of this century. The Grey Squirrel has replaced the Red in many areas of Britain, the reason for which is still unresolved. The generally accepted explanation is that the Greys can be carriers of *parapox* virus, which is fatal in Red Squirrels. Another major factor thought to have contributed to the Red population decline is loss of habitat.

Considerable efforts are being made to ensure the survival of Red Squirrels in Britain. Two commonly considered interventions are the translocation of Red Squirrels around Britain and the introduction of

With these questions in mind a study of the geographical variation in the British Red Squirrel was conducted at the National Museums of Scotland in Edinburgh. Skulls and pelages of 445 museum specimens were analysed to determine any sexual, geographical or seasonal variations in appearance, morphology or colouration. Skull analysis was based on 21 measurements of the mandible and cranium. These measurements were used to give estimations of size and shape for each mandible and cranium of each specimen. Tails were examined for presence of bleaching and percentage of tail bleached. Each tail was also assigned a score based on four characters: overall tail colour, bleached colour, percentage of tail bleached and percentage of hair length bleached. Pelages were assigned a score based on the colour of the fur at 8 points on the body. Geographical analysis concentrated on four populations: Highlands, Cumbria, Lancashire and Jersey.

Mandibles from Lancashire specimens were found to be larger than mandibles from the three other populations. In addition, Lancashire crania were found to be larger than crania of both the Highland and Cumbria populations. Cranial shape values appeared to increase or decrease in order of decreasing latitude. On two of the three occasions when the 'Highlands, Cumbria, Lancashire, Jersey' order was not followed it was only the Lancashire population that was out of sequence. This may be a consequence of the suspected introduction of Bavarian Red Squirrels to the Lancashire area (Gurnell, pers. comm.)

It would appear that there is still an identifiable British Red Squirrel in at least some parts of Britain, although tail fading is a polymorphic characteristic. Only specimens belonging to the Highland population followed the expected seasonal sequence of tail and pelage bleaching and moulting. The Cumbria specimens also displayed some characteristics expected of the British Red Squirrel. There were no

bleached specimens at all in the Lancashire and Jersey populations. This is not surprising of Jersey as this population is of European origin. Due to the close proximity of Cumbria and Lancashire it may be expected that the Lancashire specimens would also display bleaching. This distinction may, once more, be a consequence of the introduction of the Bavarian race of *S. vulgaris* to the Lancashire area.

Evidence suggests that tail bleaching may be correlated to latitude and, consequently, longer day length in the North. Similarly, there is evidence that skull dimensions may follow a pattern according to latitude.

MAP of GREAT BRITAIN showing distribution of the 18 populations from which specimens were collected. Analysis concentrated on specimens from populations 1, 10, 11 and 18.



- KEY
- 1

Highlands
- 2

Perth and Kinross
- 3

Fife
- 4

Argyll and Bute
- 5

Lothian
- 6

Lanarkshire
- 7

Arran
- 8

Borders, Dumfries & Galloway
- 9

Northumberland, Tyne & Weir, Durham
- 10

Cumbria
- 11

Lancashire
- 12

Wales
- 13

Lancashire
- 14

Gloucestershire
- 15

Surrey
- 16

Brownsea Island
- 17

Isle of Wight
- 18

Jersey

If the British Red Squirrel is indeed a distinct form then steps need to be taken to ensure its survival. Evidence suggests that the introduction of continental specimens may be affecting the morphology and appearance of Red Squirrels belonging to British populations. The National Museums of Scotland are continuing to collect Red Squirrel specimens with the hope of expanding this project. It would be very useful to examine some European specimens as well as having increased sample sizes for British populations.

GAYLE PEACOCK

Gayle is an Honours Zoology student who took a year out last year to do research on the Red Squirrel in Scotland. She did this at the National Museums of Scotland and was given a grant by The Edinburgh Natural History Society.

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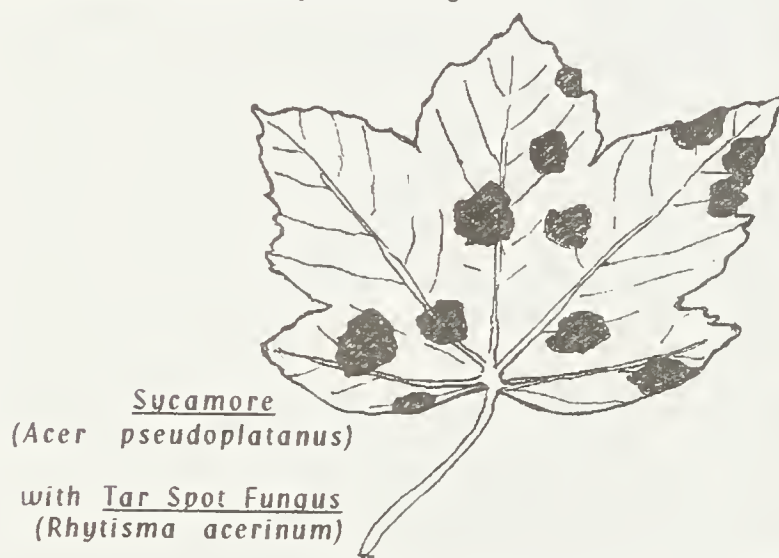
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The SYCAMORE, The NORWAY MAPLE, TAR SPOT FUNGUS and WHEAT RUST

The commonest Maple in Britain is the Sycamore (*Acer pseudoplatanus*) with its Plane-like leaves (*pseudoplatanus* = False Plane). It's not a native tree, but an old introduction, though clearly very well adapted to our climate. It's widespread in Europe and it's perhaps a little odd that it didn't manage to cross the land-bridge to Britain at the end of the last Ice Age. Opinions differ as to when it arrived: the 14th or 15th centuries according to some, the 12th century according to others - or maybe even earlier, in Roman times.

The Norway Maple (*Acer platanoides*) is a much more recent introduction, which in terms of height, growth rate, and general leaf-shape is very similar to the Sycamore (*platanoides* = Plane-like). It also comes from Europe, with perhaps a slightly more northern distribution, but it shows every sign of becoming as well integrated into our flora. It's a rather more attractive tree than the Sycamore in spring and autumn. In spring clusters of pale yellow flowers appear before the leaves, so the tree appears to be covered with a delicate golden sheen, while in autumn the leaves turn a clear yellow, orange or red.



The Sycamore flowers appear along with the leaves so are less conspicuous; they are smaller and are held in large, drooping spike-like clusters which dangle below the leaves. The leaves of the two trees, though similar, are easily differentiated as Norway Maple leaves are much spikier. In the autumn Sycamore leaves turn a dull yellow and, except in the most polluted areas, become covered with large black spots - a result of infection by the Tar Spot Fungus (*Rhytisma acerinum*).

The rusts, smuts and other parasitic fungi which grow on plants are often very 'choosy' about their hosts, and Tar Spot is no exception. It never attacks Norway Maple, though it is occasionally found on the Field Maple (*Acer campestre*) which is native to England and occasionally planted in Scotland. Fungi like Tar Spot have co-evolved with their hosts, and are often so specific that it is possible to identify them after a superficial examination if you know what they are growing on.

Some fungi have very complicated life-cycles and require two or more hosts at different stages of their development. The rust *Puccinea graminis* is one such. It has been thoroughly studied because it infects grasses, including cereal crops, the alternative host being the shrub Barbary (*Berberis vulgaris*).

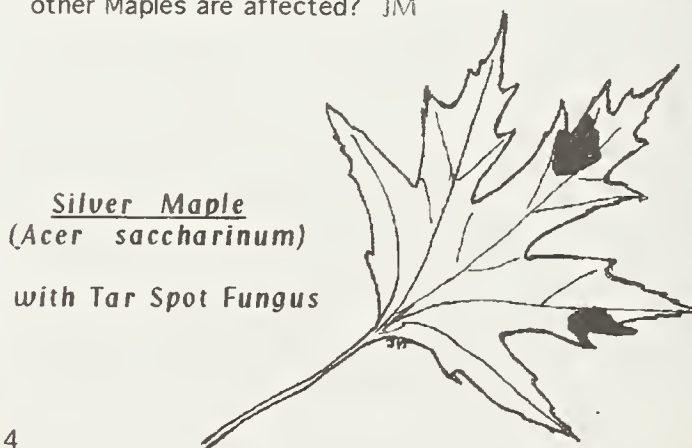
In spring the Wheat Rust attacks Barbary, eventually producing rusty orange patches on the leaves (I was delighted to find some a year or two ago). Later in the year it moves on to wild grasses or cereals, attacking first the leaves which become striped brown, later the stems and leaf-sheaths. Attempts were made in the wheat-growing areas of America to eradicate it by destroying Barbary, but in a sufficiently warm climate it turned out to be capable of cutting out the 'middle man' and surviving vegetatively on grasses alone. Fungi, like plants can be very adaptable.

JACKIE MUSCOTT



POSTSCRIPT

Shortly after I submitted the above article, Mary Clarkson drew my attention to a Maple in a garden in South Edinburgh, apparently suffering from Tar Spot. She collected some leaves and we identified the tree as *Acer saccharinum*, the Silver Maple. It is interesting that this tree from eastern North America should be susceptible to the fungus, while *Acer platanoides* from Europe is immune. I wonder which other Maples are affected? JM



They are re-opening the Union Canal for the Millennium!

It will take £78.5 million to do it but the engineering work to re-open and link the Union and the Forth and Clyde Canals is underway. By Easter 2001, after 60 years, it will again be possible to travel by boat from the heart of Edinburgh to the heart of Glasgow, and from the Forth to the Clyde.



As one of Scotland's most ambitious Millennium projects, £32 million having been provided by the Millennium Commission from the National Lottery, it is an initiative with anticipated benefits including 4000 jobs, and a £10 million tourist industry attracting an estimated 2.5 million visitors a year. That is the 'spin' being placed on this mammoth project by its promoters, although only time will tell whether these estimates will actually be realised. That apart, on the more unseen side, there should be real benefits to the wildlife of the canal if it is re-opened with care and managed with wildlife conservation as one of the objectives.

The first stretch to be opened in 2000 is that within West Lothian, with the two blockages at the M8 and at Broxburn removed, to make it possible to enjoy a boat trip from Ratho to Linlithgow. A return journey will take all day since canal travel is not exactly fast! By 2001, and the construction of the Millennium Wheel at Falkirk to transfer boats from the Union Canal down 25 metres to the lower Forth and Clyde, the entire route between the two cities will have been opened. That is the target.

It is a huge investment for the future, particularly when the cost of the Union Canal, when first proposed in 1798, was only £320,000.

The Union Canal was eventually opened in 1822, with the first boat passing through on 11 May. It linked into the Forth and Clyde, which was opened much earlier, in 1790, by a flight of locks at Falkirk, and for 7 shillings express boats took passengers between the two cities at 9mph (5mph by night), taking 13 hours in all for the one way journey. It also linked into stage coach stops on the way and so travellers could get off, say at Falkirk, and continue their journey elsewhere in Scotland.

In 1835 it is recorded that 127,292 passengers were carried on what was a much smoother and more comfortable ride than a stagecoach at that time. Some boats even had dining rooms and gaming tables, to help passengers pass the time, but they were not allowed to smoke nor to dip their hands into the water!

The main function of the canal was for the inward transport of coal and building materials to the cities and of manufactured goods and general merchandise outward. However, its profitable life was a short one since in 1842 the Edinburgh and Glasgow Railway Company opened its inter-city route, much of it following the line of the canal. The competition dramatically escalated to affect the viability of the canal, with one way fares dropping to 2s 2d in 1844. But in 1849 its owners admitted financial defeat and sold out to the railway company - the beginning of the end, with revenue dropping from £17,102 in 1826 to £1,169 in 1921. By 1965 the Union Canal was no longer navigable, due to blockages.

There were then real pressures to have it filled in, as happened at Wester Hailes, but in 1979 it was designated an Ancient Monument, which went some way to preserving it. Now however, with the financial support of the Millennium Commission, Scottish Enterprise, British Waterways, Local Authorities and Europe, the canal will again serve the Central Belt of Scotland - albeit in a much different way from that of the 19th Century.

As a wildlife refuge the canal has long been recognised as a distinctive and important habitat. A stable slow-moving fresh water body is not a common habitat in Scotland, nor in the UK. For this reason it is one of the rare habitat types listed in the UK Biodiversity Action Plan. It will therefore be essential that the new use and development of the canal does not put at risk its unique semi-natural character. It will be a sensitive balancing act to ensure that wildlife and the associated habitats, a real feature and attraction for visitors, are not upset nor destroyed by over exploitation and use, either of the environs, the towpath or the waterway itself.

The planning of the project has gone forward with this in mind. Dredging has been limited to the winter months, according to a regime agreed with Scottish Natural Heritage and in the upgrading of the towpath, great care has been undertaken to maintain the vegetation between the water and the path. An urbanised canal is to be avoided at all cost and this is determining the approach to these various works.

Overseeing this is Olivia Lassiere, who has been appointed by British Waterways as the ecologist for the project. In due course she will be preparing a biodiversity action plan for the canal, working with the many partners in the project. Already she has come across the rare water plant, Bennett's Pondweed, found only in the Glasgow section and nowhere else in the world. This led to a conservation plan to protect it from dredging, which included the well publicised use of shopping trolleys to re-establish the plant after the work.

Other operations have included the removal of orchids in Falkirk, for replanting once construction work is completed, and the planting of 200 trees at Muirend, near Broxburn, by West Lothian members of Soroptomist International, a prize they won for cleaning up the towpath between Broxburn and Philpstoun during the 1999 April Spring Clean event.

In the past one of the serious problems for boats has been the silt and the water weed. The silt has now been dredged from the entire West Lothian stretch but only use of the water will keep it open, to create the important habitat transition of open water to the marshy fringe on the opposite bank. The movement of boats is essential for maintaining this diversity and so with the re-opening will come real benefits to the wildlife. However, how will Coots and Moorhens cope with the increasing traffic? Will they have enough cover? Will oil pollution be a problem? Believe it or not horses are no longer allowed on the towpath and boats will be self propelled. Is it possible that the urban horror of litter will blight the waterway? Will the noise and movement of boats and people change things?



The risks are obvious and we must ensure that they are not realised to the detriment of the canal, part of which borders an SSSI at Philpstoun, and all of which is listed by the SWT as a wildlife site of local importance. But it is not just the canal wildlife that we must care for since the woodlands, hedgerows, ponds and even some of the associated derelict land, such as the abandoned brick clay quarry at Winchburgh, all add to the wealth of biodiversity along the canal corridor.

The re-opening of the Union Canal and its link with the Forth and Clyde, is truly a Millennium Project. It would never have happened without the Lottery and few would have imagined that it would ever happen in their lifetime. It has been a dream for some but now reality for many. We must hope that as a consequence the cost to wildlife will be minimal, even though the canal may become a major tourist artery of the future and certainly a local asset for the many communities through which it passes. The anticipated opening at Easter 2001 of both canals will be an historic occasion. Let us hope that this time the lowland canal system will be preserved for the Millennium, and with it its distinct biodiversity.

DR JOHN C SHELDON

Footnote: John Sheldon is responsible for co-ordinating West Lothian Council's interest in the canal work for which it is contributing over £400,000.

A STRANGE OBSESSION - DUCKS!

Many moons ago a small boy (me) went collecting mushrooms with his Dad on the Somerset Levels. "Look" said Dad "That's a wild duck that's just flown off." My first wild duck, but it must have struck a chord. Adolescence in Birmingham - hardly duck country that! Then on to Portsmouth - a bit better but too busy working. Finished up in 1956 in Edinburgh and happened to drive through Seafield and Joppa. Thousands (actually 25,000) birds on the sea. "What are they?" I asked. "Ducks - Scaup" I was told. Investigated further and found other sorts of duck with them. Gradually the obsession took hold. I wanted to see more and more ducks. The years ahead - Aberlady and Musselburgh Lagoons, Pentland Reservoirs and Musselburgh Lagoons - but, you have guessed, especially Musselburgh Lagoons.

So why this strange obsession? Well, ducks are very beautiful. Think of a drake Goldeneye just a few feet away from you. Think of these green and pink Eider drakes - they are not just black and white. There is much in the natural world as beautiful as that but surely none more beautiful. And ducks are very confiding, when they are on their natural element of water they stay close to you. Furthermore they are easy to identify - only 19 regular species (excluding the dubious Ruddy Ducks) and then you are on to the unusual characters starting maybe with the Surf Scoter. Ducks raise my spirits - make me happy.

It's January 2000 and it's a lovely morning. High tide at Musselburgh, so let's get there quickly. So to the river mouth and a lovely drake Pintail; super start; and Mallard, Eider and Goldeneye in good numbers. Then along the sea wall and Long-tailed Duck and Velvet Scoter close in. Cross over to the boating pond and hundreds (yes, hundreds) of Wigeon, one or two Pochard and a fair number of Tufteds. Cross over to the new bird hides for a pair of Shovelers, plenty of Teal and a pair of Shelduck.

I make that 12 species in two wonderful hours. Had I stayed longer I could possibly have made it 16 for I knew that Gadwell, Goosander and Merganser had been seen that morning and with the help of a 'scope I might have seen distant Common Scoter on the sea. So just 3 of the better known ones missing - Scaup (no longer in their thousands on the Forth but still plenty elsewhere), Smew and the off-season Garganey. Nothing unusual that morning such as that evasive Surf Scoter, but that didn't worry me in the slightest. A wonderful two hours for a duck addict like me. I returned home happy.

Maybe my addiction to ducks was engrained in me that far-off prewar evening on the Somerset Levels with my Dad, looking for mushrooms. I remember it even now so well. It was getting dark and there in front of us, flying away, was my first ever wild duck. I can even remember the colour of my Dad's trousers as he walked a few feet ahead of me!

BORAGE

(*Borago officinalis*)

The derivation of *Borago* is uncertain coming possibly from the mediaeval Latin *borra* meaning rough or hairy and referring to the leaves. Linnaeus, however, stated the name to be a corruption of *Corago* from the Latin *Cor* - heart, and *ago* - set in motion. The Rev. Johns agrees with this latter version, mentioning in his 'Flowers of the Field' its use in stimulating drinks.

Borage is a medium, bristly annual with robust stems and oval to lanceolate basal stalked leaves with wavy margins. The stem leaves are smaller, the uppermost clasping the stem. The flowers are a bright blue with a white centre, half-nodding and star-shaped and with a prominent cone of purple-black stamens. It is widespread throughout the Mediterranean region but introduced to Britain and growing here as a garden escape. Gerard grew it in his garden and wrote in his *Herbal* of 1597 that "Borage hath broad leaves, rough, lying flat upon the ground of a blacke or swart green colour: among which riseth up a stalk two cubits high, divided into divers branches, whereupon do grow gallant blew floures, composed of five leaves apiece: out of the middle of which grow forth blacke threds joined in the top, and pointed like a broch or pyramid: the root is threddy, and cannot away with the cold of winter."

Borage has long been cultivated as a herb for medicinal and culinary purposes. The common thread running through historical descriptions is its ability to make men and women glad and merry, to comfort the heart, dispel melancholy and give courage. Pliny repeats an ancient verse "I, Borage always bring courage". The flowers were floated in the stirrup-cups given to Crusaders at their departure. In more recent times, in the claret cup ladled out to thirsty travellers at London railway stations, Borage leaves were floated, adding a fresh taste of cucumber. According to Gerard "Syrrup made of the floures of Borage comforteth the heart, purgeth melancholy and quieteth the phreneticke or lunaticke person". The seventeenth century diarist, John Evelyn, wrote that Borage was "of known virtue to revive the hypochondriac and cheer the hard student".

The flowers are a beautiful, pure blue often chosen by Old Masters to paint on the Madonna's robe and included on the page borders of Books of Hours. They were embroidered on mediaeval tapestries and on the scarves of tournament jousts. These brilliant blue star-like flowers are a magnet for Bees.



Borage contains mucilage, tannins and pyrrolizidine alkaloids, the last of which in isolation are toxic to the liver. Because of these alkaloids there is uncertainty of its safety as a medicine. It is subject to legal restrictions in some countries and should not be taken internally. These restrictions do not apply to Borage seed oil.

Borage is a plant which deserves more medical research, folk use suggesting a variety of medicinal properties. With its high mucilage content its emollient qualities in creams and lotions make it helpful for sore, inflamed skin and for dry sensitive skin. Research suggests that Borage works on the adrenal gland - hence courage? The seed oil is free of the harmful alkaloids and is rich in polyunsaturated fats.

Many old recipes describe salads and sandwiches which contain the leaves of Borage finely chopped but, considering the rough, bristly leaves, and the harmful alkaloids, hard to relish. The flowers are crystallised for cake decoration or frozen in ice cubes as an addition to drinks.

In the early 1980s the oil from borage seeds was found to contain gamma-linolenic acid (GLA), a valuable medicinal substance. GLA is also found in Evening Primrose oil but there is a higher quantity in Borage seed oil.

At that time there were some cultivation problems with Borage and a slump in prices. However, Evening Primrose does not grow well as a crop in this country and now several fields of Borage have been planted. These have been successfully harvested in England over the past seven years and there are now a few fields planted with Borage in the Scottish Borders. Borage has also been grown as an experimental crop at the Agricultural College in Aberdeen. Because of the poor summer last year the yields were disappointing. The field which I saw near Maxton at the beginning of August this year had ripened well and the seeds were beginning to drop. The field was humming with Honey Bees and the farmer was preparing to harvest it.

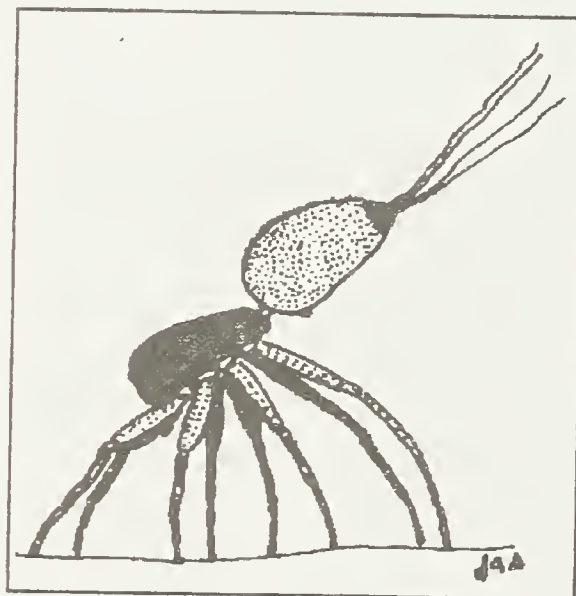
Given a good summer Borage grows well in Scotland, the long daylight hours aiding photosynthesis and the lower temperatures causing the plant to produce more oil. Rape grown in Scotland has the highest yield of seed oil in the world. The drooping flower heads give the Borage fields a lovely lilac colour, pleasing to the eye after the harsh yellow of the Rape fields.

SPIDERS and MUCK HEAPS

The Saturday outing on 13 November 1999 took the form of a walk round Mendick Hill from West Linton. Those who first arrived at Dolphinton were surprised to see in the corner of a field a fairly extensive dung heap partially covered by what, on first glance, appeared to be white sheeting. Closer examination revealed the covering to be matted spider silk which was spread over most of the higher points of the pile. Over and under the silk sheets many hundreds of small spiders ran to and fro to the utter amazement of all, and no one in the party could remember ever seeing anything like it before. But 'spider man' thought it might be connected with migration.

Spiders are known to disperse aerially, commonly referred to as 'ballooning', under suitable atmospheric conditions. The mechanism by which this is achieved is not yet fully understood, but it needs a combination of calm weather with thermal uplift. In such a state immature and adult spiders will make for a high point, face into the air current, raise their abdomens and produce some silk strands (see sketch) which are then pulled out by the upward air current until the lift generated by the buoyant strands is sufficient to overcome the weight of the spider. Evidence of this migration is commonly seen and felt when spiders land on parked cars or one's person.

On Saturday 13 November 1999 the atmospheric conditions at Dolphinton were warm and still, evidently suitable to spur the spider population of the dung heap into action. But something was not just right for taking off, and the hundreds, even thousands of them scurried about trailing silk which had coalesced to form silvery sheets. In order to hold so many spiders the heap must have been in existence for some time and perhaps another incentive to migrate may have been lack of food for the growing population.



Spiders can produce webs surprisingly quickly and from questioning a local dog walker it would appear that the whole thing had been produced within a twenty-four hour period. Next morning, atmospheric conditions were much the same but overnight dew clung to the silk sheets and the number of spiders moving about was much reduced. Whether they had managed to take off between times, or had buried themselves back in the heap, was not known, and I had no intention of copying the dung beetle enthusiasts, who dig into muck with bare hands to find the animals that interest them.

That this phenomenon was not unique was shown that same Sunday by finding similar dung heaps with coverings of spider silk near Kilbucho and near Shiplay. Sample specimens taken showed that the most common spider, at all stages of growth, was *Ostearius melanopygius*, followed closely by *Erigone atra* and *E. dentipalpis*. They are all members of the family *Linyphiidae*, often referred to as 'money spiders'.

The two *Erigone* species are in fact little black jobs that require microscopic examination to identify to specific level, but *Ostearius*, although only about 2.5mm long as an adult, can be readily identified by its colouration. The carapace is dark, the abdomen orange-red tipped with black around the spinnerets. This last feature can be seen even on small, immature specimens with the use of a hand lens.

The two species of *Erigone* have been known in Britain since the early days of arachnology but the first record of *Ostearius* was in 1906. In the literature it is

recorded as occupying a wide variety of habitats including filter beds and rubbish heaps, and at least one author considers it to be probably the most widely found species in the world. Near to home we have only a handful of records, three in Midlothian, four in East Lothian and as yet none in West Lothian. Maybe we should search for dung heaps!

JIM STEWART

POSTSCRIPT: For some years the Scottish Agricultural Science Agency at East Craigs carried out continuous air sampling at 12 metres above ground level as part of investigations relating to aphid movements. Airborne spiders were part of the catch, and from March to September 1993 some 550 adult spiders of 23 species were trapped.

DUDDINGSTON LOCH and BAWSINCH

Duddingston Loch lies to the south of Arthur's Seat. The Loch and its associated reed beds and woods have been a bird sanctuary since 1924. Bawsinch is a 7 hectare triangle of dry ground south of the Loch, bounded by Duddingston Road West and the Innocent Railway (now a cycle track).

In 1969 development proposals were submitted for Bawsinch which, if implemented, would have sounded the death-knell for the Sanctuary. Scottish Wildlife Trust, amongst others, strongly objected to these and to protect the Bird Sanctuary, purchased Bawsinch in 1970. Although the Sanctuary is publicly owned, and Bawsinch is owned by the SWT, the latter co-operates closely with the Scottish Office to manage both areas as one reserve of 28 hectares. The Loch is fringed by one of the very few reed beds in Scotland. This habitat is a stronghold of Reed Buntings and Sedge Warbler, but in recent years has become very important as a winter home for Bitterns. These birds have become exceedingly rare due to lack of suitable reed areas, and it is of paramount importance to sustain the reed bed for their future use. There are a variety of fish species including Mirror Carp, one of which was recorded at a record 25lbs.

Channel cutting in the reed bed commenced in 1985 and continued until 1989. This resulted in about 3 km of extra reed bed edge, a most productive habitat for insects, fish and birds. The operation cut up the area into 30 islands and the resulting beneficial tranquillity was immediately exploited by Herons, which established a Heronry in 1986. Five species of duck, Swans, Coots, Moorhens, Cormorants, gulls and a large flock of Greylag Geese are always to be seen. In total 170 species of birds have been recorded in the Sanctuary. The associated wet woodland is largely Bay and White Willow, Black Alder and Poplar, and is rare in Scotland.

Bawsinch was acquired to protect Duddingston Bird Sanctuary in 1970. At that time it was classified as 'waste ground' and was covered by nettles and willow and rubbish. It was quickly decided to convert this into habitats which were being rapidly reduced in the wider countryside: scrub woodland, freshwater ponds and flower meadows. In addition, one hectare would be converted to mown grass as grazing ground for the Duddingston goose flock. By 1976, the habitats were progressing well, and today the woodland is a flourishing complex of all 44 British woody species; geese graze the Green; the scrub is a thicket, very attractive to nesting birds; the wild flower meadows are flowering; and there are 12 ponds; the excavation of one of those was funded by the Edinburgh Natural History Society in honour of Peter and Agnes Gunn. LRC has helped the reserve by transferring 2 hectares of adjacent woodland to the SWT in 1992 and by contributing substantially to the costs of reed bed inlet cutting in the 80s.

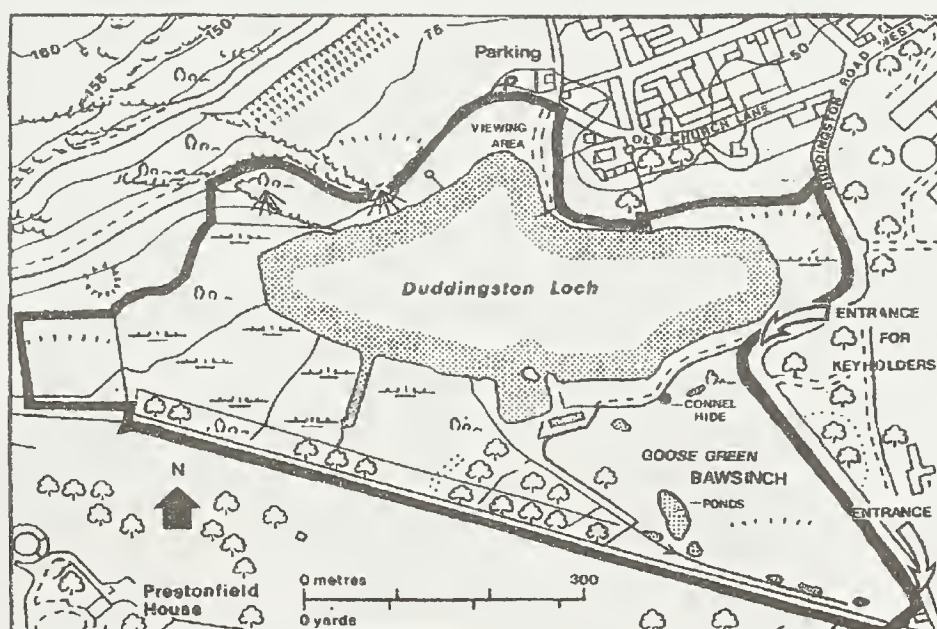
In 1977 a bird observation hide was constructed, which is used by SWT members and by schools, social and scientific organisations by appointment. The North shore of the loch and the eastern woodland section of the reserve are open to the public. Access to Bawsinch itself is by organised guided parties, but the landward portions of the Sanctuary are closed except for scientific study. This retains a core area where the wildlife is undisturbed.

According to the records the biological diversity extends to 44 species of trees and shrubs, 42 grasses, 188 herbs, 5 ferns, 16 lichens, 68 fungi, 79 hover flies, 4 amphibians and 20 species of mammals, the most recent addition being Otter. Many more species of plants and animal are yet to be recorded, but the list illustrates how rich and valuable a small reserve in an urban situation can become.

COLIN MCLEAN

Duddingston Loch and the surrounding woodland and reedbed has been a Bird Sanctuary since 1924. It is also a Site of Special Scientific Interest.

The triangle of land to the south-east is Bawsinch, bought by the Scottish Wildlife Trust in 1970 to save it from housing development.



Map reproduced with permission of Scottish Wildlife Trust

William Evans was an outstanding, all-round naturalist. He described several species new to Science and published many papers on different aspects of Natural History. Much of his time was spent studying the fauna and flora of the Forth area. He was honoured by being elected a Fellow of the Royal Physical Society in 1880 and of the Royal Society of Edinburgh in 1884. I have gleaned most of the early *odonata* records from his paper on the *odonata* of the Forth Area. (Evans 1904-6). This paper was in effect a separate part of his classic work 'Our present Knowledge of the Fauna of the Forth area'.



William Evans, F.R.S.E, etc

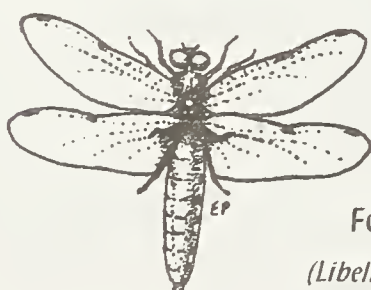
Evans recorded 11 species of *odonata* in Forth, 6 damselflies and 5 dragonflies. Though present in the Forth basin not all of these species were recorded as present in the Edinburgh area.

Joint-Editor of *THE SCOTTISH NATURALIST*, 1912-1922

The Beautiful Demoiselle (*Calopteryx virgo*) is a species of running water. Evans quotes Stewart (1809) that it occurred in the neighbourhood of Edinburgh at that time. Evans did not see it hereabouts, nor has it been recorded since then. Recent records indicate that this species is still present, though uncommon, in the Aberfoyle area in Upper Forth where Evans also recorded it.

Evans's only record of the Emerald Damselfly (*Lestes sponsa*) in the Forth area was near Callander. Evans had visited the Aberlady area between July and 9 August 1898 but he did not record the Emerald Damselfly there. Now it is one of our commonest damselflies both there and throughout Forth, and indeed over most of Scotland.

Evans stated that the Azure Damselfly (*Coenagrion puella*) appeared to be a rare insect in Scotland. Strangely his only record in Forth was at the Bush near Roslin on 22 June 1886. Now it is exceedingly common along the Forth and Clyde and the Union Canals. Its range extends from Fife and Perthshire to the Borders and SW Scotland, with an additional isolated but long established population in Kintyre. Much of this extension of range has only been recorded since the 1970s.



Four Spot Chaser
(*Libellula quadrimaculata*)

The remaining three damselflies that Evans recorded, namely the Common Blue Damselfly (*Enallagma cyathigerum*), the Blue-tailed Damselfly (*Ischnura elegans*) and the Large Red Damselfly (*Pyrhosoma nymphula*) have a virtually unchanged distribution being widespread and locally common in Forth and indeed throughout Scotland. The distribution of the Common Hawker (*Aeshna juncea*) and the Golden-ringed Dragonfly (*Cordulegaster boltonii*) has changed little over the last 100 years.

Evans recorded the former as common throughout Forth and the latter as locally common in Upper Forth but not recorded in Lower Forth. The situation remains the same today.

Whereas the Four spot Chaser (*Libellula quadrimaculata*) was common in Upper Forth, the only record that Evans had in Lower Forth was on 8 June 1895 when three were seen at a curling pond near Drumshoreland, Linlithgow. In 1840 Duncan wrote that it occurred at Duddingston Loch and the Pentlands (Evans 1904-6). Virtually unknown from Lower Forth until recently, the first breeding record there was from Greg Fitchett who recorded egg-laying at Craighton Quarry near Winchburgh in 1998 (pers comm.)

The Black Darter Dragonfly (*Sympetrum danae*) was recorded by Evans from the Pentlands, Ochils, Lomonds and Trossachs but he regarded it as rare in the Lower Forth. Where suitable habitat occurs it is now common and widespread throughout.

Many readers will be familiar with the Common Darter (*Sympetrum striolatum*) frequently seen in autumn basking on the path at Aberlady Bay Nature Reserve. Evans found a Common Darter on 27 July 1901 beside a dry ditch at Luffness and his wife spotted a similar red dragonfly on top of a tramcar in Morningside, Edinburgh about a fortnight earlier! T. Boyd was responsible for the first Scottish breeding record of this species at the Marl Loch, Aberlady about 1980. Since then its progress northwards throughout Scotland has been spectacular (Smith, 1998).

The only additional species to Evans's list for the Forth area is the Northern Emerald Dragonfly (*Somatochlora arctica*). No authenticated record of this species in Forth was known until 23 July 1994 when it was found at a bog in Loch Ard forest near Aberfoyle (Knowler and Mitchell 1994). Breeding has since been proved at this site.

Loss of habitat and creation of new habitat alter the local populations of *odonata* but larger-scale climatic changes may also be taking place that will affect our native fauna. We have already seen a northern spread of the Azure Damselfly and the Common Darter. If our climate becomes warmer we may find more southerly species such as the Migrant Hawker (*Aeshna mixta*) moving north and becoming established in Scotland. Conversely our cold climate dependent species such as the Azure Hawker and the Northern Damselfly may be adversely affected.

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BETTY SMITH

DRAGONFLIES DAMSELFLIES DRAGONFLIES DAMSELFLIES DRAGONFLIES DAMSELFLIES DRAGONFLIES

RAINFALL AT CORSTORPHINE 1999

After 1998's record high, 1999's rainfall at Hillview Road, Corstorphine returned to about average, at 680mm. Indeed no other year in the 34-year run of records for the station came nearly as close to the long-term (1966-95) average of 683mm. Over the 1998-99 winter (December - February), rainfall was average. This was followed by a dry spring (March - May), and a summer (June-August) and autumn (September - November) that were both slightly drier than average.

The Scottish climate, however, rarely delivers averages. If we look at the figures for the individual months of 1999 we find that in only two months was the rainfall close to average. January, June, November and December were substantially wetter than average, while February, March, July and October were substantially drier. October, on average the wettest month of the year, was on this occasion the second driest.

The year's other main curiosity was that November, a wet month, nevertheless enjoyed the longest period with no measurable rainfall, the 13 days from 8th to 20th inclusive, equalling the previous longest November dry spell.

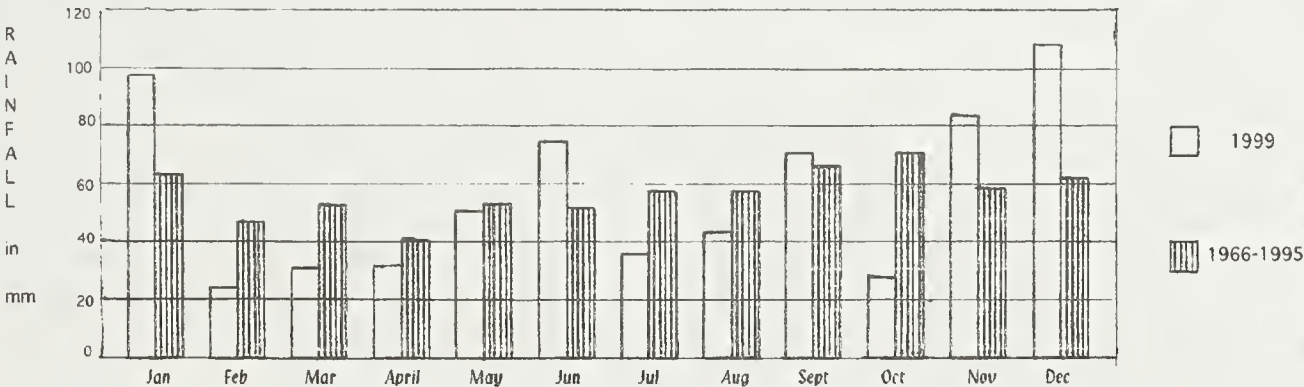
Despite 1999's much lower rainfall, the year followed its predecessor in having an unusually large number of days with measurable rain, 225, the second highest in the 34-year record, which compares with an average of 183 days. Even February and October, the driest months, had more days with rain than usual. There were no outstandingly wet days, the highest 24-hour totals being 29mm. on December 11th and 27mm on January 24th.

MUNRO DUNN

A dripping June sets all in tune.
Old Proverb

COMPARISON of RAINFALL in 1999 with AVERAGE for 1966-95

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	mm
1999	97	24	31	32	51	75	36	43	71	28	84	108	680	
1966-95	63	47	53	41	53	52	58	58	66	71	59	62	683	



FORTH ISLAND BIRD COUNT 1999

One may perhaps be forgiven a nostalgic look back over the 40 years since the ENHS started the island bird counts in 1959 and a look at the status of seabirds a century ago. This period has seen an amazing increase in overall numbers of many species, and a more recent sad crash in the numbers of others. The story starts perhaps a century ago when the first bird protection laws were enacted in the late 1880s. It became illegal, instead of 'good sport', to shoot seabirds disturbed from their nests in the remote recesses of the Isle of May, the Bass and St Abbs. A slow increase and spread began. Even by 1935 numbers were still low but increasing (Rintoul and Baxter, 1935 from where all old records are derived).

Gannets have always been a feature of the Bass with perhaps rather less than 4000 pairs in 1904. They have increased ten-fold and are now displacing gulls, Auks and Shags on the island. In 1907 one pair of Herring Gulls bred on the Isle of May, increasing to 80 pairs by 1935 and around 20,000 pairs in the 1970s before culling started. Lesser Black-backed Gulls have also vastly increased and the Great Black-backed Gull is slowly spreading, with small numbers on seven of the Forth islands. In 1959 there was a new colony of 16 nests of Kittiwake on the Lamb. The 400 pairs there now have been joined by similar numbers on Fidra and Inchkeith and (fewer) on Inchcolm. This species, nesting on an exposed cliff-face, can be counted fairly accurately and has shown some erratic counts mirroring, to a certain extent, the problems faced by Shags.

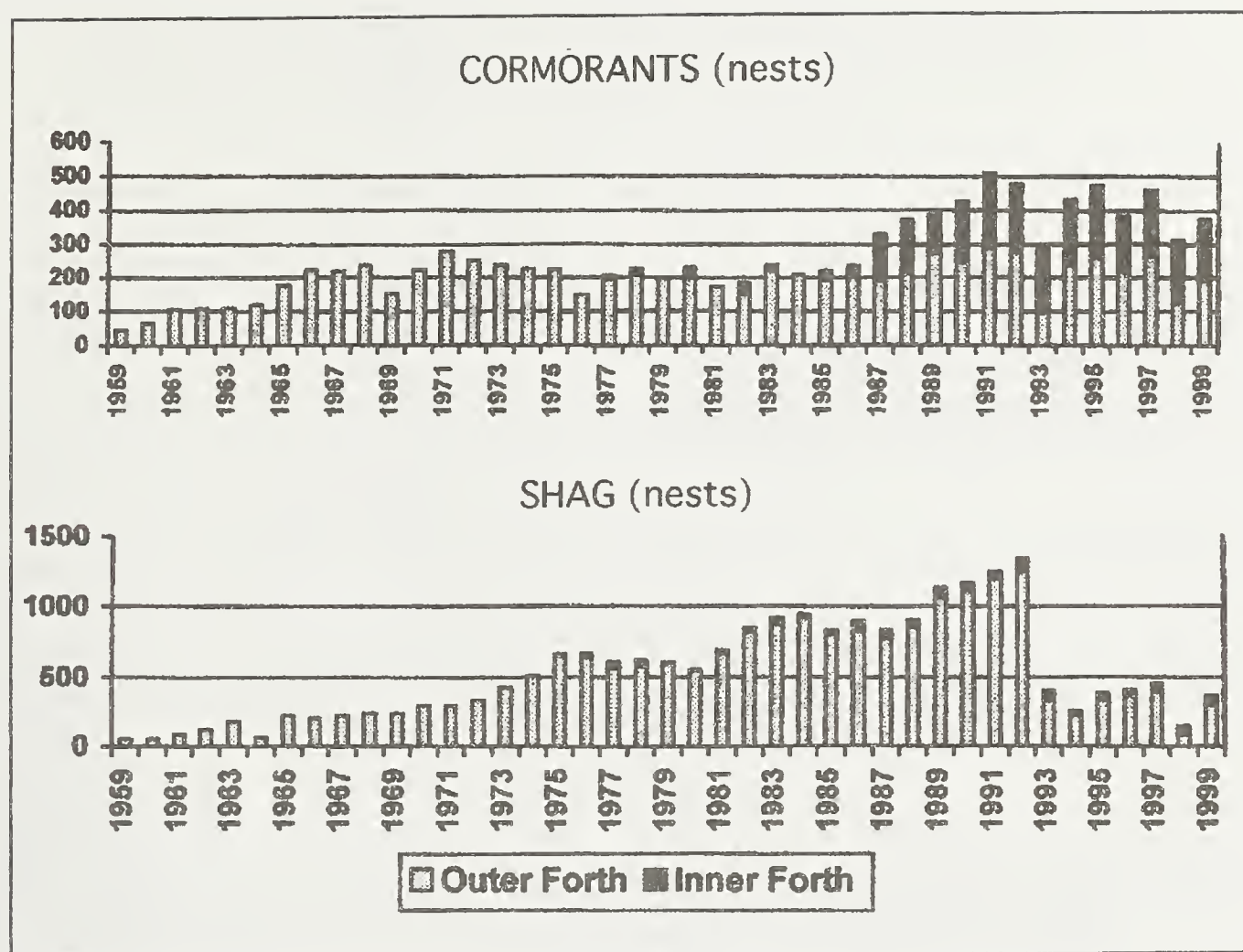
The tern story is the saddest. 100 years ago there were probably few but, especially during the war years, numbers built up and we had some 500 pairs of the rare Roseate Tern, 500+ (one count of 1200) Sandwich Terns and hundreds of Common and Arctic Terns. The increase of Herring Gulls, nesting when the terns arrived in spring and taking over the whole island, started a downward spiral. Sandwich has now gone and Roseate practically so. Several hundred pairs of Common now breed at Leith Docks (?threatened by new development there?) and Arctic are now building up on the Isle of May.

Accurate nest-counts can be made of the two very similar-looking species, Cormorant and Shag. Counts of the Forth birds (not Isle of May) over 40 years are considered in more detail (see graphs). Cormorants are rather nervous birds and disturbance by humans will set the whole colony flying. The white eggs are very vulnerable to the big gulls and a prolonged visit in May to a colony may result in the complete loss of every clutch. Disturbance of this kind on the Farnes probably resulted in the first known breeding in SE Scotland in 1957 when five nests were found on the

Lamb. Breeding numbers increased rapidly, by an average of some 20 nests per year, to 280 in 1971. There were some egg losses caused by odd visitors (including the counters!) but in 1976 a boatload of people in May and another of photographers in June ensured complete breeding failure there. In August of that year 150 very late nesting pairs were found on Craigleith, obviously failed nesters from the Lamb.

Experience has shown that there is a maximum colony size with this social breeding bird of around perhaps 250 pairs per colony. The East Lothian Cormorants on three islands act as one colony. However this species does not breed until it is 3-4 years old and there are innumerable non-breeders sitting on many island reefs. In 1977 a small breakaway group bred in the Inner Forth on the Cow and Calves off Inchmickery. This new colony has expanded and, depending on disturbance levels over five islands, often reaches the 200-220 level. It seems that the Forth Cormorants have reached saturation point unless they colonise a new area such as the Isle of May.

Compared to the relative stability of the Cormorant numbers, Shags have led an erratic life. Rintoul and Baxter (1935) report an increase of breeding of this species with six pairs on the May, 30-40 pairs on the Bass in 1928 while on Craigleith one pair bred in 1933 and two pairs in 1934. In 1975 there were 670 pairs breeding in the Forth not including probably as many more again on the Isle of May. Shags have suffered from the incidence of 'red-tides' when there is a 'bloom' of dino-flagellates, tiny organisms floating on the sea, which secrete a paralytic toxin. This toxin accumulates in the food-chain through fish to birds. In 1968 and 1975 the bulk of the Farnes Shag population died due to 'red-tides' and the increase of this species (10% per annum) in East Lothian was disrupted. In the winter of 1980/81 the new Edinburgh sewage system stopped the discharge of raw sewage off Leith, dumping it instead well out to sea. The next two years saw a near doubling of the breeding Shags of East Lothian. Kittiwake numbers also recovered. Breeding numbers of Shag continued to rise until 1992 with a peak of 1400 pairs (including 106 in Inner Forth) and as many again on the Isle of May. Disaster struck in winter 1992/93 with reduced numbers and late nesting probably due to food shortage and bad weather. In 1994 the breeding numbers were down to 20% of the 1992 figure. There has been a partial recovery since, but the question remains - how much of the food shortage is due to bad weather and how much to over-fishing in the Wee Bankies?



Note on the graphs: 1998 shows low figures because bad weather prevented the count on Craigleith.

Coming up to date now, 1999 was the first year of the Seabird 2000 Census which aims to count all breeding seabirds in Britain and Ireland and then to identify local and national trends. Previously this has been done in 1969/70 and 1985-87. As part of this project each of the Forth islands must have all seabird species counted, so some additional counters have had to be called upon to help.

Craigleith was chosen as the island to 'practice on' since it has most species and is of a manageable size. Looking at the Puffin figures, these apparently show a massive increase over previous years. Normally a count is made of those birds seen on the cliffs or offshore. This year the occupied burrows were estimated by calculating from 25 square metre quadrats. The density of burrows varied from 0.12 burrows per square metre in the areas of tree mallow to 0.76 burrows per square metre elsewhere.

The other point of note is the count of Herring and Lesser Black-backed Gulls. These are not counted regularly. However, where counts were carried out in the past, the Herring Gulls averaged around 3000 pairs and the Lesser Black-backed Gulls around 350 pairs. These gulls may have reduced significantly in numbers or it may be that different counters have used different vantage points or criteria in counting the nests.

Thanks must go to the Forth Seabird Group who co-ordinate the counts and provide the table of data.

BOB SMITH AND BILL BRUCE

REFERENCE: Rintoul, L.F. and Baxter, E.V. 1935. *A Vertebrate Fauna of Forth*. Oliver and Boyd. Edinburgh. 397pp.

SUMMARY of SEABIRD COUNTS for the FIRTH of FORTH 1999

	Bass Rock	Craig leith	Lamb	Fidra	Eyebro: ughty	Inch keith	Carr Craig	Inch colm	Hay stack	Inch mkry	Inchg /Frb	Long Craig	May	Total
Fulmar (AOS)	48	128	12	221	0	381	0	149	0	38	190	0	312	1479
Cormorant (nests)	0	56	134	0	0	85	100	0	0	0	0	0	0	375
Shag (nests)	30	131	76	61	0	21	4	3	0	33	0	0	259	618
Gannet (nests)	x	0	0	0	0	0	0	0	0	0	0	0	0	x
Eider (nests)	x	x	0	111	7	x	1	x	0	365	x	4	996	1484+
Great B-B Gull (nests)	x	6	2	2	0	x	0	1	0	2	1	0	19	33+
Lesser B-B Gull (nests)	x	135	88	599	0	x	3	x	0	242	81	0	1519	2667+
Herring Gull (nests)	x	1146	132	1399	7	x	50	x	11	242	182	0	3115	6284+
Kittiwake (nests)	1307	511	115	225	0	349	0	116	0	0	0	0	4196	6819
Common Tern (nests)	0	0	0	0	0	0	0	0	0	0	10	Frb118	415	543
Arctic Tern (nests)	0	0	0	0	0	0	0	0	0	0	0	0	737	737
RoseateTern (nests)														9
Sandwich Tern (nests)	0	0	0	0	0	0	0	0	0	0	0	12	110	122
Razorbill (sites)	78	125	68	108	0	57	0	4	0	0	0	0	3429	3869
Guillemots (brds on	2422	1708	3760	376	0	48	0	0	0	0	0	0	21694	30008
Puffin		28000	7	405		1641		40		22				28405+pairs
	x	pairs	birds	pairs	0	birds	0	birds	0	birds	0	0	x	1710+birds

KEY - AOS = Apparently occupied sites; x = present but no count; 0 = none breeding; Frb = Forth Rail Bridge; + = incomplete total

BILL BRUCE

THE SCOTTISH SEABIRD CENTRE AT NORTH BERWICK

East Lothian's newest tourist attraction is due to be completed by Spring 2000. It will be a stunning landmark. It is expected to attract more than 50,000 visitors a year. Visitors will be able to see, smell and hear seabirds diving to catch fish and guarding their young. Architects have designed the building at North Berwick harbour with a gull's head in mind to fit in with the theme of the Centre, which aims to broadcast live pictures of bird colonies on the nearby Bass Rock and Fidra via spy cameras which will not disturb the birds. The project was awarded a £1m Millennium grant two years ago. The Scottish Seabird Centre is a registered charity which aims to increase public awareness and appreciation of Scotland's rich natural environment. It is the brain-child of one man, Bill Gardner of North Berwick, who struggled for many years to bring the idea to fruition.

Every year over 150,000 seabirds including Puffins and Gannets return to the islands off North Berwick. Gannets have nested on the Bass Rock for over a thousand years. During the breeding season more than 70,000 Gannets are crammed on to this historic island. As Chris Packham says, "To see the Gannets lifting from the cliffs, stalling, hovering, bickering and brushing, is to experience one of the truly great wildlife spectacles in the UK."

The harbourside centre will also feature panoramic views across the Firth of Forth to the Bass Rock from its observation area and cafe, a small cinema showing films of Scotland's seabirds, a gift shop and a scale model of the Bass Rock, with its story outlined. This Scottish Seabird Centre will welcome advance bookings from coach parties and school visits. Bill Oddie said "There is no other project of the same scale in the UK; it is of national and international significance."



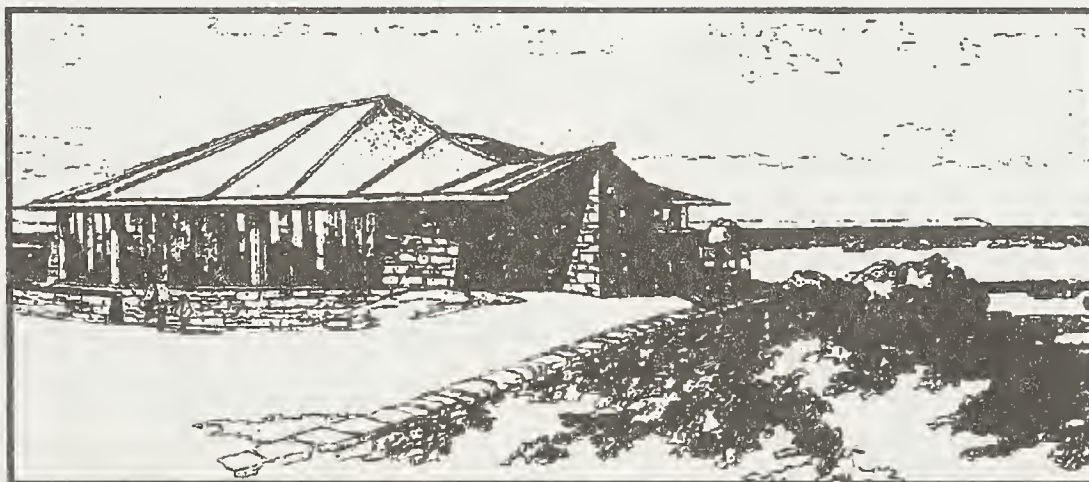
Dr Brian Nelson, who is probably the most knowledgeable man on Gannets in the world, wrote of the Bass Rock birds:

"The Bass has long shared, with one or two other Gannetries, the distinction of being the most famous in the world. It was the first to be mentioned in the literature (perhaps 6th century) and could well be the largest single-rock Gannetry. Its Gannet population increased from 6-8000 occupied sites (almost equivalent to pairs) in 1962, to 30-40,000 in 1994. From North Berwick and Tantallon, the Rock appears to be well-nigh covered, apart from a wide and variable strip roughly bordering the path.

"In addition to Gannets the Bass is home to Guillemots, Razorbills, Puffins, Fulmars, Shags (no Cormorants), Kittiwakes, Herring Gulls, Lesser Black-backs and now a few Black-backs and Eiders. There are a few other species on the Bass: Rock Pipit, Pied Wagtail, Starling, Hedge Sparrow and Feral Pigeons regularly breed. The fortunes of almost all these birds have changed over the years."

Dr Nelson concludes "the innovative manner of the Scottish Seabird Centre and the educational potential of these seabird islands, so near to the Scottish capital, yet still wild and unspoilt, will be harnessed for the good of the seabirds themselves. The more people understand, the more they will care."

ARTICLE COMPILED BY MARY TEBBLE FROM
VARIOUS LEAFLETS AND PUBLICATIONS
ISSUED BY THE SCOTTISH SEABIRD CENTRE.



NEW SEABIRD CENTRE AT NORTH BERWICK

WALKING THE DOG

Several of my entries under Observations were found while walking the dog. Those of you who possess a dog will know only too well that there is no peace until the brute has had his daily walk.

When the Society went to Arnside in June, the dog came too. This sometimes led to minor problems when visiting reserves. Our visit to Leighton Moss was on a very hot day when the dog could not be left in a locked car, so while others went to look at the birds we went for a walk. Not only did we hear a Bittern calling at close quarters but we found an interesting *Pluteus* at the side of the road. It had no obvious attachment to wood. A few days later and with the aid of the British Fungus Flora this was identified as *Pluteus murinus*.

Another interesting find was made a week later, on 22nd June, when an *Inocybe* was gathered in the woodland behind Abercorn Church. This keyed out and answered to the description of *Inocybe grammata*.

There is a pleasant woodland path above the River Esk, which starts from the end of the road leading to Inveresk Cemetery. On two occasions the dogwalk has been rewarding. On 25th June there were five perfect *Psathyrella pyrotricha* beside the path, very conspicuous because of their beautiful orange russet colour. As I did not have my camera with me I returned the next day and was horrified to find a machine had been along the path cutting back the vegetation. Fortunately, the fungi had been missed by a whisker. A month later when walking along the same path, there was a big group of the Yellow Staining Mushroom. When I dug up two of them the caps and stems stained yellow immediately where I had gripped them but the staining had faded by the time I was back at the car.



Also during July, a very small Inkcap was spotted in the grass beside the path leading into woodland below Roslin Cemetery. It was not much more than an inch in height and looked rather like a miniature Lawyer's Wig. It was *Coprinus freisii* which grows on dead grass and identification was solved by seeing an illustration in *Collins Field Guide* by Courtecuisse.

Now back to Abercorn again. But why all these walks beside cemeteries? A grassland survey has been in progress for several years, noting all fungal species and in particular, identifying the waxcaps. Cemeteries are reputed to be good for waxcaps as the grass is relatively unimproved. In response to a request for wider coverage, six cemeteries were added to my list of sites. These were chosen with care - longstanding; not too big; and with a dog walk nearby as dogs are excluded from cemeteries.

When parking the car at Abercorn in July a few *Conocybe lactea* were seen in the grass, beside the wall. These are nearly white and quite small but have distinctively shaped caps which are tall and narrow with more or less parallel sides. All six cemeteries produced disappointingly few fungi throughout the season but Abercorn produced the most interest. Earlier in the year rabbits had been digging enthusiastically under the large tree near the church and at the entrance to every burrow stood a Parasol Mushroom, *Macrolepioa rhacodes*. Was this a response to soil disturbance? Three months later there was one large squat mushroom amongst the tombstones, *Agricus bernardii*. On the dogwalk that followed, in the woodland behind the church, Birdsnest fungi, *Crucibulum laeve*, were on the small twigs lying on the ground. There must have been about a hundred.

Bad weather in July produced another pleasant surprise. Trudging round Inverleith Park in pouring rain and inwardly cursing the dog, the day was saved and the dog forgiven when a medium sized fungus was spotted growing on a tree stump. It was shaped like a rosette, and was pale coloured with pinky-brown stains. It was levered out of the wood with great care (as my car key was my only tool) and with the aid of books is thought to have been *Abortiporus biennis*.

On a particularly unpleasant day in November the dogwalk took us to Beecraigs to get some shelter from wind and rain. But it was well worth it, for lying loose beside the path was a small and somewhat damaged *Paurocotylis pila*. It has been found twice before at Beecraigs and once in a town garden, and makes its appearance late in the year.

MOTTO: If you want to find fungi, keep a dog!

ELIZABETH FARQUHARSON



THE KINDROGAN WORK WEEKEND

"A Work Weekend ! You're going on a Work Weekend !" my friend gasped in amazement. I tried to explain that it was a weekend I enjoyed: a choice of tasks none very onerous; a change of company; lovely food; an interesting slide show - but I could see she was not convinced. The Scottish Field Studies Association is a membership organisation which I joined years ago, after I had attended a field course at an English Field Centre and felt that I ought to be supporting the Scottish organisation. Somewhere along the line, I became aware that I had become a 'Friend of Kindrogan' (the Association's Field Centre in Perthshire) instead of merely a member of the SFSA, and one year I joined a "Friends' Work Weekend". Just why I did so I can't remember, possibly I just wanted a few days away at little cost, but it was a great success and I have been back every year since. The party gathers on Friday evening in time for a meal which is followed by a discussion of the jobs to be tackled.

These normally include weeding the flower borders round the house, mending linen (very popular in wet weather!), sorting the library, clearing ditches and general tidying round the grounds.

Sometimes more exciting tasks are on offer - constructing paths, removing trees, making a fern trail, painting indoors or out, helping to make a pond - and so on. Each participant chooses what he or she wants to do and stops when they feel they have had enough. There are also frequent breaks for a coffee and a chat so that the weekend is a very sociable one and everyone knows everyone else by the end. After dinner on the Saturday there is usually a slide show given by one of the participants and over the years there has been a great variety of subjects - Iceland, orchids, the birds of the Isle of May, an Aberdeenshire wood, on the trail of the Alpine Lady Fern, to name but a few. The end to the proceedings has become traditional - a scrumptious high tea late on Sunday afternoon. Roll on the next Work Weekend!

MARY CLARKSON

Note: Dates for Work Weekends in 2000 are not final at the date of writing but are likely to be late April and mid October. For details please contact Mary Clarkson.

The copy of the Kindrogan Programme is included with this Journal.

The Excursion Committee has arranged a Nats weekend on 26th-28th May. See Summer Programme.

THE GARDENERS' HYMN

This lovely poem has appeared in many Parish Magazines and in the *Selkirk Herald* of 1st August 1998. It was read to us at Members' Night by Margaret Little on 28th April, 1999.

*All things bright and beautiful,
All creatures great and small,
All things wise and wonderful,
The Lord God made them all.*

*But what we never mention,
Though gardeners know it's true,
Is when He made the goodies,
He made the baddies too.*

*All things spray and swatatable,
Disasters great and small,
All things paraquatable,
The Lord God made them all.*

*The greenfly on the roses,
The maggots on the peas,
Manure that fills our noses,
He also gave us these.*

*The fungus on the goosegogs
The club root on the greens,
The slugs that eat the lettuce
And chew the aubergines.*

*The drought that kills the fuchsias,
The frost that nips the buds,
The rain that drowns the seedlings,
The blight that hits the spuds.*

*The midges and mosquitoes,
The nettles and the weeds,
The pigeons in the green stuff,
The sparrows on the seeds.*

*The fly that gets the carrots,
The wasp that eats the plums,
How black the gardener's outlook,
Though green may be his thumb.*

*But still we gardeners labour,
Midst vegetables and flowers
And pray what hits our neighbour's,
Will somehow bypass ours.*

*All things bright and beautiful,
All creatures great and small,
All things wise and wonderful,
The Lord God made them all.*

EXCURSIONS 1999



Saturday	January	16th	Hopetoun Estate	T	Mary Robertson
Saturday	February	20th	Dirleton Coastal Walk	G	Mary Clarkson
Saturday	March	13th	Pentland Edge Walk	G	Frances & Munro Dunn
Saturday	April	3rd	Montrose Basin	O	David Adamson
Saturday		24th	Water of Leith	G	Mary Robertson
			Stockbridge to Canonmills		
Saturday	May	1st	Muiravonside	B,G	Jackie Muscott
Saturday		8th	Barns Ness	S	Bobby Anderson
Saturday		15th	Elphinstone Circuit	B,O	Graham Swift
Saturday		22nd	Whittingehame Estate	B,G	George McDougall
Saturday		29th	Bowhill CP	G	Christine Campbell
Wednesday	June	2nd	Heriot Watt Tree Trail	T	Graham Swift
Saturday		5th	Upper Tweed Walk	G	Eric & Eileen Perry
Wednesday		9th	Erraid Wood	G	Bob & Betty Smith
Saturday		12th	Stoneyburn Bing	B,G	Jackie Muscott
14th(Monday) - 18th(Friday)	June		- ARNSIDE		Margaret Perry
Wednesday		23rd	Granton	B,G	Liz Pilling
Saturday		26th	Chatelherault	B,G	Ian McCallum
Wednesday		30th	Heriot Watt Campus	Gr	Graham Swift
Saturday	July	3rd	Cluny House, Aberfeldy	G,B	Sarah & David Adamson
Wednesday		7th	Newbattle	T	Alistair Scott
Saturday		10th	Plean CP	B,G	Mick Blunt
Wednesday		14th	Dalkeith Palace	G	Cameron Manson
Saturday		17th	Crail	B,G	Lyn Blades
Wednesday		21st	Lauriston Castle	G	Eunice Smith
Saturday		24th	Aberlady	O,B	Bill Clunie
Wednesday		28th	Bawsinch SWT Reserve	G	Colin McLean
Saturday		31st	Gorebridge to Edgehead	Ge,B	Bill Baird
Wednesday	August	4th	West Craigie Quarry	Spiders	Jim Stewart
Saturday		7th	Union Canal & Craigton Quarry	Dragon -flies,G	Greg Fitchett
Wednesday		11th	Canonmills Loch	G	Elizabeth Farquharson
Saturday		14th	Dowlaw-Lumsdaine	G	Margaret Watson
Saturday		21st	Musselburgh	O	Harry Dott
Saturday		28th	Marchmont	G	Duncan Gill
Saturday	September	4th	The Hirsell	F	Mike Richardson
Saturday		11th	Yair	G	Graham Swift
Saturday		18th	Red Moss	L	Brian Coppins
Saturday		25th	Broughton Circuit	G	George McDougall & David Adamson
Saturday	October	9th	Tynninghame	F	Mary Clarkson
Saturday		23rd	Penicuik Wood + Bush Estate	F	Philip Mason & Adrian Newton
Saturday	November	13th	Around Mendick	G	Janet Watson
Saturday	December	18th	Wine and Cheese Party		Elizabeth Farquharson

EXCURSION CODES

B	Botany	E	Entymology	F	Fungi
G	General	Ge	Geology	Gr	Grasses
ML	Mosses & Liverworts	L	Lichens		
O	Ornithology	S	Sea shore	T	Trees



EXCURSIONS 1999



HOPETOUN

Date Saturday, 16th January
Leader Rob Shipman,
Head Groundsman

There was a cold chilling wind blowing when a brave band of 13 Nats gathered at the house to meet Rob Shipman, Head Groundsman at Hopetoun House, nobly taking the place of Mary Robertson who was otherwise engaged in France. Unlike Mary, Rob was not an expert on trees, but nevertheless he had a great deal to say and show that was of interest to the company.

The outing began with a walk down to the Bog Garden, now being cleared and replanted more or less following the original plans. As well as much scrub and small trees, some very large trees had been felled, among them a Ripple Sycamore, so called because, for reasons that are not understood, the grain develops a wave along its length. It seems that this tree was wavy only on one side, but despite this it is considered very valuable as the Ripple Sycamore is much sought after for the backs of violins.

The next target was the walled garden, until recently a garden centre but now being reorganised as far as possible to reproduce its original form and function. One of the principal tasks at present is to remake the paths to withstand the heavy pressure of visitors expected when the job is completed. It was also noted that walls, fruit trees and greenhouses are being put into good order. From the walled garden it was but a step to the arboretum on the other side of the Thunder Burn to see the three Morinda Spruce (*Picea smithiana*), two grown from seed brought back from the Himalayas last century and given to Hopetoun for the gardener James Smith to grow; and the third which was grafted on to a local Spruce. All three are now enormous trees; the girth of the grafted tree, on top of the local spruce, indicated that the rate of growth of the former is significantly greater than that of the latter. A walk through the grounds near the lawn followed and we inspected the work being done to channel away excess water, to deal with wind-blown trees, and to make safe other trees that are shedding branches. The large round pond is to be the next subject of renovation in this area; it involves redoing the limestone walling on the sides of the pond and replacing the clay which forms its impervious bottom.

Lunch was taken in what used to be the garden centre cafe, and members were indeed grateful that it was so warm and cosy. The inner woman and man being amply restored, we thanked Rob for giving his time so generously and making this an enjoyable visit despite the inclement weather.

At this point some members left, while others took the opportunity to stretch their legs in a more extended walk through the grounds, and particularly to enjoy the fine views across the Forth in conditions of excellent visibility.

ANDREW GILCHRIST

DIRLETON to YELLOWCRAIGS COASTAL WALK

Date Saturday, 20th February
Leader Mary Clarkson

Twenty-six of us met at Dirleton Castle car park in the February sunshine.

Setting off down the road past the church we noted with pleasure Snowdrop (*Galanthus*



nivalis) and Winter Aconite (*Eranthis hyemalis*) naturalised on the verges. A Yellowhammer put in an appearance in the hedgerow. A plant of Stinking Iris (*Iris foetidissima*), a garden escape, was showing its pods split in threes to display its orange-red fruit. Another name for this plant is Roast Beef Plant as it smells of raw meat when crushed. Do birds avoid its seed because of this, someone queried.

Stopping at the Eel Burn we looked for water birds without success but Jackdaws cavorted overhead. We walked along the track dividing the ploughed field wondering how many moles were responsible for the long line of molehills. At the north of this track was a grassy hillock bedecked with many beautiful snowdrops. We passed into another habitat, a common strip of woodland where Mary showed us specimens of Buckthorn Bracket Fungus (*Phellinus hippophaecola*), topped with bright green algae, growing in the branch junctions of Sea Buckthorn (*Hippophae rhamnoides*).

We crossed a sandy field, a favourite with Curlews and we saw several, then walked along the eastern edge of Eldbottle Wood. Again Mary had an interesting find: California Brome (*Ceratochloa carinata*), a grass introduced from North America which has been recorded in Yellowcraig plantation since 1983. In the field nearby, we saw the bright-green leaves of Annual Nettle (*Urtica urens*), a native monoecious annual, each inflorescence having many

female and few male flowers.

It was very cold now and spitting with rain so we were glad to enter the wood for shelter. Walking westward between conifers, we found two interesting fungi. First, *Heterobasidion annosum* (smelling, some said, of turpentine) was growing close to the ground on a low live conifer stump amid the grass. Secondly, nestling amid leaves beneath a Beech tree, an Earth Star was found. It was dried out but full still of powdery spores.

After squally wind and rain, the sun came out in time for lunch, which we had sitting on a bank near the shore. We birdwatched as we ate. A male and a female Merganser were diving beyond the rocks with a Gullinot, a Red-throated Diver and Shag with a prominent crest, nearby. Running along the tide's edge, Dunlin and a Redshank were feeding. An early Gannet flew east towards the Bass, passing over a group of Eiders with two male Goldeneye among them.

We set off again to walk around the Yellowcraig Plantation. Edith Wright reported Coltsfoot (*Tussilago farfara*) in flower on the dunes. We reached the car park and found Common Polypody (*Polypodium vulgare*) on a low wall. We looked at the glossy, dark green leaves of Alexanders (*Smyrniolum olusatrum*) by the entrance gate. Walking back through the wood north of the car park, we found another umbel in bud, which we identified as Bur Chervil (*Anthriscus caucalis*) which Stace calls Bur Parsley. Moving on we admired the long undivided fronds of Hart's Tongue (*Phyllitis scolopendrium*) growing strongly on a nearby wall and the young root leaves of Spring Beauty (*Claytonia perfoliata*) under the trees. Then back to our cars.

This February walk encompassed several quite different habitats (and weathers). We were all very grateful to Mary Clarkson for arranging and surveying it so carefully and for her excellent leadership.

MARY TEBBLE

HARLAW and THREIPMUIR RESERVOIRS

Date Saturday, 13th March
Leaders Munro and Frances Dunn

Birds - Lots of Geese on the ground and flying over - Pink-feet, Greylag and 5 or 6 Barnacle. A flock of Starlings, a Stonechat, Linnets, Reed-bunting, Tufted Duck, 2 male and 2 female Goldeneye, Partridge, Curlew, Kestrel, Buzzards, Jackdaw, Pied Wagtail, possible Goldcrest, Bullfinches, 2 Herons, Cormorants, Goosander and Lapwings.

Plants seen - Townhall Clock (*Adoxa moschatellina*), Alder catkins, Snowdrops, Coltsfoot, Gorse.

Fungus - *Trichaptum abietinum* (small brackets on conifers, purple underneath), *Lycoperdon pyriforme* (puffball on wood).

JEAN GALBRAITH

MONTROSE BASIN WILDLIFE CENTRE (SWT)

Date Saturday, 3rd April
Leader Blair Wilkie (Ranger)

Montrose Basin comprises 750 hectares of tidal mudflat forming the estuary of the River South Esk inland from Montrose. The east coast railway crosses the mouth of the estuary and our first view of the mudflats was from the train windows as the 9.05 from Edinburgh to Aberdeen drew into the station. Blair and Karen, the 2 SWT rangers based at the Wildlife Centre, together with George McDougall who had driven from Bathgate, ferried the 13 Edinburgh Nats from the station to the Centre where we were soon joined by 2 other car travellers and a minibus full of old friends from the Glasgow Nats.



The Centre Observation Gallery is equipped with telescopes, CCTV and field guides. In comfort, it is possible to observe activity on the mudflats and at the bird feeders. Some lagoons attract Heron and small duck, and feeders bring in Reed Bunting and Finches, including Brambling. The mudflats are only 100 metres below the Centre and teem with waders and estuarine ducks. The Shelduck feed on tiny *Hydrobia* sp. and the Oystercatchers and Curlew probe for other molluscs. As the tide was low, Blair and Karen led us onto the sticky mud to find these vital parts of the foodchain and to search for sea Slaters, Lugworms and Sand Shrimps that wriggle about on their sides.

After lunch, we were taken to the Old Montrose Pier at the south-west end of the Reserve. The sun broke through, leaving a lingering haze which created subtle atmospheric shapes. We watched and listened to courting Eider, the drakes with green ear-muffs and salmon-pink breasts. Further out were the Goldeneye, Shelduck and Pink-feet Geese, the numbers of the last being augmented by huge drifts that flew out of the west and above us, before disappearing in the eastern mist. Across the river and in nearby fields were at least 100 Mute Swans. One field has been set aside by local farmers as a 'sacrificial field' for the swans to feed on the crop. The swans are chased from other fields. At one time the swans were fed by the rangers but this was a magnet to other swans resulting in crop damage in surrounding fields. The sacrifice of the crop of one field is a compromise between farming and wildlife interests. Much of the farmland is managed under SNH-negotiated agreements, as was evident from the reed beds and brackish streams and the sacrificial field.

After a brief stop at the Centre, we parted company with the Glasgow Nats and returned to the station for the 4.05. We arrived in Edinburgh feeling relaxed and satisfied after a good day out.

DAVID ADAMSON

WATER of LEITH,
STOCKBRIDGE (NT 246746) to CANONMILLS

Date Saturday, 24th April
Leader Mary Robertson

Having ended the April, 1998 walk at Stockbridge, members of the ENHS continued following the Water of Leith downstream to Canonmills. The path is now on its west bank, our starting point being at the steps below the clock at what used to be the Trustees Savings Bank, Stockbridge.

As expected we found the same species of plants washed down by the current, the Few-flowered Leek (*Allium paradoxum*) being particularly invasive along the Haugh. The river bank is lined mostly with elms and willows. From Falshaw Bridge we crossed over to Arboretum Avenue which is lined with both native and Swedish Ornamental Whitebeams. We then climbed to the stone gateposts at the entrance to Rocheid Path, named after the owners of Inverleith House which is now enclosed by the Royal Botanic Garden perimeter fence. Below us, on the opposite bank are The Colonies, a terraced housing development built for workers' families from the Old Town in the latter half of the nineteenth century by the newly formed Edinburgh Cooperative Building Association whose members were drawn from all the building trades.

Two unusual looking shrubs were examined, both being in flower, the female plant still bearing red berries. As the evergreen leaves were unspotted there was some debate until they were identified as Spotted Laurel (*Aucuba japonica*). Later on we saw the usual (flowerless) spotted-leaved Laurel. Following the newly-surfaced footpath was very pleasant with Cherry blossom, fresh green leaves and birdsong. Earlier on I had been pleased to see several Song Thrushes, one of our declining species of garden bird.

Nearing Canonmills we crossed the wooden footbridge and found a new colony of Butterbur (*Petasites hybridus*) with a couple of flowerheads. We climbed the steps up to Brandon Terrace, turning left at the clock to pause at the road bridge in Inverleith Row. Canonmills was at one time a thriving old village with grain mills for the Canons of Holyrood, orchards and a distillery (for the Canons also?). We continued along the street to Inverleith Terrace Lane and the walkway sign, back to join the Rocheid Path.

Dame's Violet (*Hesperis matronalis*) had been added to the plant list. We had seen a Yellow Corydalis (*Pseudofumaria lutea*) on a cindery slope. We were delighted to see a pair of Grey Wagtails at the start of the walk; a Mink popped out from a drainage pipe in the wall near Falshaw Bridge, hesitated and finally retreated and at the end of the afternoon it was comical to see seven Mallards loafing on the roof of the Standard Life building, where I am told there is a roof garden. It had been a pleasant afternoon and we were pleased to welcome a few new faces. Jackie Muscott recorded the detailed plant list.

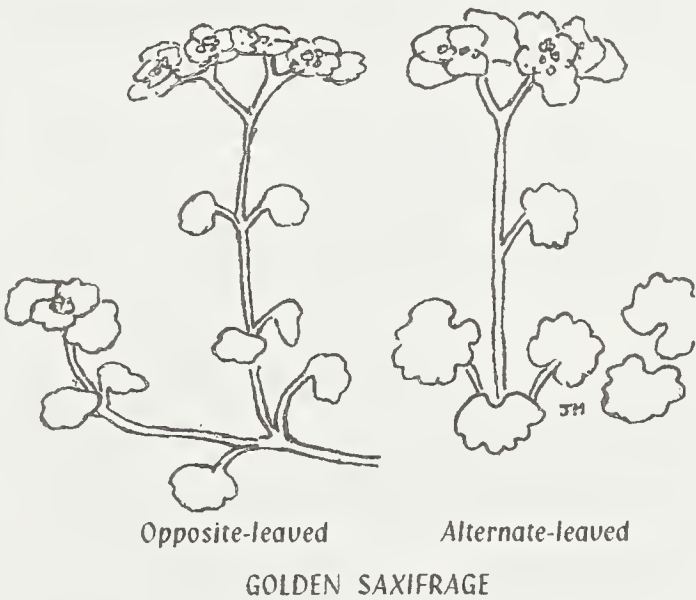
MARY ROBERTSON

MUIRAVONSIDE COUNTRY PARK

Date Saturday, 1st May
Leader Jackie Muscott

The Muiravonside Estate was acquired by Falkirk Council in 1978. It consists of about 170 acres of woods, parkland and gardens on the west bank of the River Avon. The house has been demolished but many buildings survive - the summer house, the old limekilns, the dovecot and the stables (now a visitor centre).

It was a fine day when we met and embarked on a short circular tour from the car park to the little farm with rare breeds (where Swallows were flying) via the limekilns to the river walk and eventually to the visitor centre. Spring flowers in the damp woods included many of the commoner species like Lesser Celandine (*Ranunculus ficaria*), Dog's Mercury (*Mercurialis pratensis*), Cuckoo Flower (*Cardamine pratense*), Sweet Cicely (*Myrrhis odorata*) and Water Avens (*Geum rivale*), plus some less common plants such as Goldilocks Buttercup (*Ranunculus auricomus*), Sweet Woodruff (*Galium odoratum*) and Lords and Ladies (*Arum maculatum*). The delicate lime-loving Brittle Bladder Fern (*Cystopteris fragilis*) was taking advantage of the old cement on the mossy walls, and both the opposite-leaved Golden Saxifrage (*Chrysosplenium oppositifolium*) and the rarer Alternate-leaved Golden Saxifrage (*C. alternifolium*) were to be found near the river, allowing for comparison.



At lunchtime in the lower garden we got the chance to compare 4 different species of Speedwell, including the pretty little Slender Speedwell (*Veronica filiformis*) which has managed to colonise half the lawns in Britain since it first 'escaped' early this century; while below the old house we noted a rare woodland grass Wood Melick (*Melica uniflora*) and a couple of garden escapes: London Pride (*Saxifraga x urbinum*) and Blue-eyed Mary (*Omphalodes verna*) which is like a large, broad-leaved Forget-me-not, and which I had not seen growing wild before.

Two unexpected denizens of the skies were a Buzzard and a microlite aircraft, definitely a rara avis. The mycologists in the party found rusts on both Dog's Mercury and Lords and Ladies; and everyone had time for an ice cream and a look round the visitor centre at the end of a pleasant day.

JACKIE MUSCOTT

ELPHINSTONE CIRCUIT

Date Saturday, 15 May
Leader Graham Swift

Birdwise it was a day for warblers. Along the whole route, except possibly for the short distance through Elphinstone village, the song of Whitethroat or Sedge Warbler, and sometimes both together, was heard almost without interruption. We listened to the chatter of the former and the long sequences, including mimicry, of the latter, and watched both species perform short song flights before descending steeply into cover. But they didn't always hide, so quite spectacular short range observation of each was enjoyed by all present. It was of interest to note that the Sedge Warbler appears to have adopted Oil Seed Rape as a suitable habitat to colonise.

Of the other species seen or heard, in order of abundance, Willow Warblers led the field with only a few Chiffchaffs, and perhaps the odd Blackcap or Garden Warbler. Both Willow Warbler and Chiffchaff appeared to favour that part of the route which consisted of mature and higher trees. On such a day the more familiar species were passed over without comment, but it was still nice to see a Long-tailed Tit on the way back to the car park.

JIM STEWART

WHITTINGEHAME

Date Saturday, 22nd May
Leader George McDougall

Whittingehame is famous in arboricultural circles for its Yew, its Monkey Puzzles and its Cider Gums, so it was appropriate, after a brief glance at the pleasant double Lime avenue and a fine Scots Pine, to start our walk around Whittingehame House gardens with a view of the best extant Eucalyptus gunnii var. Whittingehamensis. The original Cider Gum was planted on the estate by James Balfour probably in 1853. It was nearly 100 feet tall and 20 feet round when it was blown down in the 1960s. It had however produced numerous seedlings which were widely distributed as var. Whittingehamensis - hardier than the type. The trees now on the estate are such seedlings. E. gunnii is the only Gum of any size likely to be encountered in eastern Britain. Adjacent to the Gum was a large characteristic Turkey Oak (Quercus cerris).

We then headed into the shrubbery to admire a remarkable Monterey Pine (Pinus radiata), planted in 1884, passing two large shapely Sessile Oaks

(Quercus petraea) on the way. Both are over 13' girth. The Pine is vigorous, healthy and, with a girth of 14', probably the largest in the Lothians.

From the Pine we could see and enjoy Sequoia sempervirens, Abies pindrow, Thuja plicata, Sequoiadendron giganteum and a rough Spruce which turned out to be nothing more remarkable than Norway Spruce. We had not time to visit two other fine trees, the Nikko and Greek Firs, (Abies homolepis and Abies cephalonica) respectively. The first is about 90' x 10', and the second 100' high but ungirthable. The party then voted on their attitude to Copper Beech, a large majority being in favour, before looking at a very fine Common Beech in fresh green leaf.

At Whittingehame Tower we were met by the owner, the Earl of Balfour who led us into the old Yew where he retold the statement of the Earl of Morton before he was beheaded (in 1581), that he had been invited by Bothwell and Archibald Douglas to become party to the murder of Darnley while at Whittingehame. We measured the Yew as 11' 10". It was measured as 10' 8" in 1838. Nobody has an accurate age for this tree but 1000 years is defensible. It was remembered that the MAFF booklet on Poisonous Plants observes that 'the commonest symptom of Yew poisoning is sudden death'.

En route to a fine Cider Gum we passed Acer cappadocicum, Cupressus glabra, Thuja plicata, Chamaecyparis pisifera 'Filifera Aurea' and a tall Juniperus chinensis with a golden sheen. In this central section a Roble Beech (Nothofagus obliqua) had blown over and another was forked and is not growing well by the standards of this vigorous South American species. There is said to be a Sorbus pohrnashensis here but if so, we missed it.

Towards the walled garden we inspected a Dawn Redwood which the Earl had planted, and the first of four remarkable Monkey Puzzles dating probably from 1846. Unusually, male flowers were within reach. After lunch we viewed a frontage of trees including Acer negundo, Calocedrus decurrens, Tilia platyphyllos, and a superb tall Crab Apple covered with big white flowers, which may be Malus hupehensis. Plunging deep into the bushes we found a Monkey Puzzle surrounded by young trees from root suckers, another substantial Acer cappadocicum, a collapsing Cercidiphyllum japonicum and a concealed Parrotia persica, all interlocked with large, elegant Japanese Maples.

Finally we did a circuit of the walled garden, returning to the burial ground along a Lime avenue. Under a young Holm Oak there was a mass of wood sanicle, (Sanicula europea), cheerful and gleaming.

ALISTAIR SCOTT



BOWHILL, SELKIRK



Date Saturday, 29th May
Leaders Christine Campbell and
Vikki Hilton, Ranger at
Bowhill.

The sun was shining at Bowhill when our members arrived by coach from a rather wet morning in Edinburgh. After a brief introduction from Vikki, we had a pleasant walk beside the River Yarrow to Newark Castle. The Castle dates from the 15th century and the last time it was inhabited was in 1700 when Anne, 1st Duchess of Buccleuch lived there whilst reconstruction took place at Dalkeith Palace.

The stretch of river from Bowhill to Newark is very attractive with both slow and fast flowing water tumbling over boulders. Some of the birds we saw were Dipper, Grey Wagtail, Mergansers, Long-tailed Tits and Goldfinches. As we walked through the mixed woodlands there were still a few remaining spring flowers to be seen.

The afternoon was spent by some members reminiscing in the old kitchen museum, whilst others had a pleasant walk beside the Upper and Lower Lochs which are near Bowhill House. The present Bowhill dates from 1812 with no visible trace remaining of the original buildings of 1708.

Many thanks to Vikki for taking us around the walks at Bowhill.

CHRISTINE CAMPBELL

HERIOT-WATT TREE TRAIL

Date Wednesday, 2nd June
Leader Graham Swift.

A wet evening failed to deter six hardy members, drawn perhaps by the surprise of seeing a collection of exotic trees on a University Campus. The rain was too unpleasant however, for an unfit leader who was relieved on this occasion to leave the members in David Adamson's capable hands. Armed with a leaflet displaying the location of 35 named and numbered trees, he reported having completed the trail, with everyone having a strong desire to return - in sunny weather!

Heriot - Watt campus is located on the Riccarton Estate, formerly the home of the Gibson - Craig family. Generations of this family had a keen interest in trees. The collection of mainly North American exotics took place between 1823 and the early 1900s. There are now handsome specimens of Coastal Redwood (*Sequoia sempervirens*), Wellingtonia (*Sequoiadendron giganteum*), Western Hemlock (*Tsuga heterophylla*), Western Yellow Pine (*Pinus ponderosa*), Western Red Cedar (*Thuja plicata*), Nootka Cypress (*Chamaecyparis nootakensis*) from

Vancouver, and the rare Cucumber Tree (*Magnolia acuminata*) from Eastern North America. Other specimens include the Corsican Pine (*Pinus nigra var. maritima*), Japanese Red Cedar (*Cryptomeria japonica*), a rare Smooth Tasmanian Cedar (*Athrotaxis cupressoides*), various Yews (*Taxu baccata*) and very old Spanish Chestnuts (*Castanea sativa*); one, the Riccarton Sweet Chestnut, is believed to be several centuries old.

The attraction of many of these trees is enhanced by their location around formal gardens laid out before 1750, and extensively re - modelled during the 19th century. Visitors are invited to stroll and enjoy the tranquillity of this very special corner of the estate - and virtually free from students! The only building visible is the library, where Riccarton House once stood.

I have written this article in the hope and expectation that you will wish to explore for yourself this hidden and unexpected oasis on our doorstep. If you do, park in the Visitors car park, 200 yards or so on the right of the Avenue leading from the East Gate entrance. Walk up the avenue to the Press and Information Office, on the left - hand side. Here is where you obtain the leaflets for exploring the campus grounds. There are four leaflets available, describing the *Tree Trail*, the *Historic Garden Trail*, *Birds of Riccarton* and a *Riccarton Sculpture Trail*..... Good hunting!

GRAHAM SWIFT

UPPER TWEED WALK

Date Saturday, 5th June
Leader Eric and Eileen Perry

Nine Society members gathered in Peebles for this event, including Ian McCallum all the way from Lenzie. We were glad to have the benefit of his wide-ranging knowledge.

A brief stop was made at Lyne Station to look for a clump of Melancholy Thistle (*Cirsium heterophylla*). Although not yet in flower, they seem to be well established. A Queen Wasp was seen eating a Caterpillar which it continued to do despite being examined at close quarters through several eye glasses! From the footbridge near here Grey Wagtail and Wren were seen.

Our motor cars then took us to Stobo Kirk where our main walk began. In the graveyard are many fascinating and ancient tombstones. The interior of the kirk is very attractive and well cared for. The hanging brass lamps are notable. The earliest parts of the building date from the 12th century and on this site there could have been an earlier church founded in the 6th century by St. Kentigern, who is also known as St. Mungo. A set of jugs (a kind of pillory) is preserved in a glass case beside the porch.

From here we walked along the track of a disused railway always close to the River Tweed, all the way to

Crownhead Bridge, Dawyck. Halfway along a detour was made past Dawyck Mill to the site of the prehistoric fort and mediaeval village of Lour. Here the defensive bank on the hill top enclosing the village is still apparent and without are traces of the parallel cultivation rigs. After lunch here beside the Dead Wife's Burn, we found a Greater Spotted Woodpecker feeding its young at a nest hole in a storm damaged Scots Pine.



Greater Spotted Woodpecker

Returning to the railway track we continued our walk cheered on our way by songs from Wren, Chaffinch, Willow Warbler, Song Thrush, Curlew, Yellowhammer and Blackcap. The latter was often heard but rarely seen.

A week or so earlier there had been a fine display of Bird Cherry blossom (*Prunus avium*) but the show was now over. Beside the road we found Lupin, Fairy Foxglove (*Erinus alpinus*) on a wall, and *Berberis stenophylla* in the hedges. Other wild flowers included Germander Speedwell (*Veronica chamaedrys*), Heath Speedwell (*Veronica officinalis*), Common Valerian (*Valeriana officinalis*), Red Campion (*Silene dioica*), Herb Robert (*Geranium robertianum*), Gorse (*Ulex europaeus*), Red and White Clovers (*Trifolium pratense* and *repens*), Vetch spp., Lady's Smock (*Cardamine pratensis*) and Water Avens (*Geum rivale*).

The weather had been ideal until we reached our cars parked at Crownhead Bridge where slight rain fell so we went to the teashop at Dawyck Botanic Garden for refreshment before dispersing.

ERIC and EILEEN PERRY

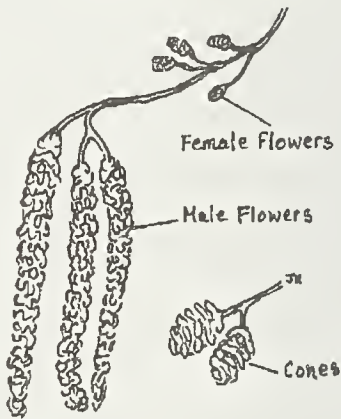
FOULSHIELS BING, STONEYBURN

Date Saturday, 12th June
 Leader Jackie Muscott

Following the successful fungus foray to this area in the autumn of 1998 (see *ENHS Journal* 1998, P47) we decided on a summer visit to look at the rest of the botany. Foulshiels is a reclaimed coal bing, so much of the area is quite stony, but round about there is a good deal of bog, with a substantial but shallow pond to the north. This leads to an interesting mixture of vegetation.

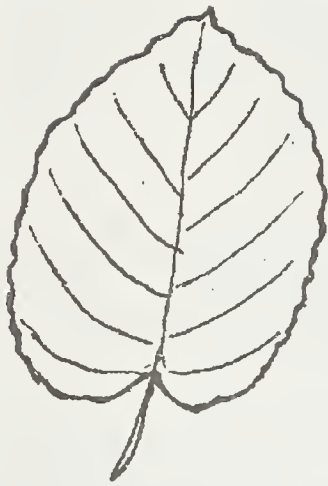
The flattened top of the bing has been planted up with Lodgepole Pine (*Pinus contorta*), and a variety of other trees have been planted round about. In some of the wetter areas our native Alder (*Alnus glutinosa*) is growing in close proximity to the Grey Alder (*Alnus incana*). The Grey Alder from Northern Europe has been much planted in recent years, particularly on poor soils, and has begun to hybridise with our native trees so I was quite pleased to find some intermediates which were subsequently confirmed as *Alnus x hybrida*.

The Alders as a group are easily recognised by their spring catkins (flowering a little after Hazel) and their distinctive cone-like fruit. The individual species have to be identified by leaf shape.



Alder Flowers and Fruit

<u>Alder</u> (<i>Alnus glutinosa</i>) Leaf flat or concave at tip	<u>The Hybrid</u> (<i>Alnus x hybrida</i>) Leaf somewhat pointed and lobed	<u>Grey Alder</u> (<i>Alnus incana</i>) Leaf pointed at tip & doubly-toothed



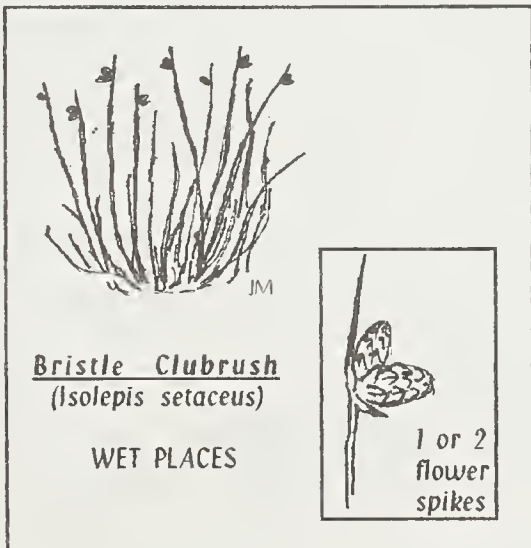
Italian Alder
(*Alnus cordata*)

Heart-shaped leaf

Apart from the planted trees there is a good deal of self-set scrub, mainly Birch and Willow, which is rich in fungi in the autumn, and is not yet so dense as to shade out the ground flora. As mentioned previously there are amazing quantities of Stagshorn Clubmoss (*Lycopodium clavatum*) and Common Wintergreen (*Pyrola minor*) in the scrub. The Clubmoss is not uncommon on old bings, quarries etc in the area; apparently it was once more common in the lowlands, pushed out by agricultural improvements, but making a come-back in these waste areas. The presence of the Wintergreen is a bit of a mystery, especially as there is more at this one site than in the rest of West Lothian put together.

We were able to refind the single plant of Fir Clubmoss (*Huperzia selago*) discovered during the autumn visit, but it was looking very sick, and unless it has managed to reproduce, I fear we have seen the last of it.

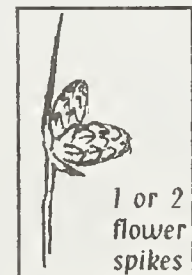
Because of the range of habitat there is quite a variety of ground flora on and around the bing. There were heath plants like Ling (*Calluna vulgaris*) and Bilberry (*Vaccinium myrtillus*), and bog plants like Lousewort (*Pedicularis sylvatica*) and Cotton Grass (*Eriophorum angustifolium*) and various Sedges. Among the daintier plants, easily overlooked, were the Fairy Flax (*Linum catharticum*) and Early Hairgrass (*Aira praecox*) on dry ground, and the Bristle Clubrush (*Isolepis setacea*), actually a member of the Sedge family, in wetter areas.



Bristle Clubrush
(*Isolepis setacea*)

WET PLACES

1 or 2
flower
spikes



Other interesting plants included Cowslips (*Primula veris*), rare inland in the Lothians, in fruit to the south of the bing and a variety of orchids in flower. The Common Spotted Orchid (*Dactylorhiza fuchsii*), the Northern Marsh Orchid (*D. purpurella*) and the Twayblade (*Listera ovata*) are all good colonisers of suitable waste ground, so are not uncommon. There were however a few plants of Heath Spotted Orchid (*Dactylorhiza maculata*), which is rare in West Lothian, and some Greater Butterfly Orchids (*Platanthera chlorantha*) still in bud. The Greater Butterfly Orchid is something of a West Lothian speciality being rare in the Lothians as a whole.

We were sorry to see that some of the scrub to the north of the bing had been recently burnt, destroying not only the young trees but also the ground flora including quite a bit of Stagshorn Clubmoss. However uncontrolled growth of the scrub will eventually shade out a number of the plants, so maybe a little selective burning or felling would do no harm. The Wintergreen is a woodland plant, so not at risk, but the Cowslips for instance are unlikely to survive in heavy shade.

JACKIE MUSCOTT



Stigma just visible

WOODLAND

Common Wintergreen
(*Pyrola minor*)

GRANTON

Date
Leader

Wednesday, 23rd June
Liz Pilling

A beautiful summer evening enticed out 19 members to an area which last year produced over 100 orchids - mainly waste ground behind the old Government Training Centre (now part of the National Museums of Scotland), east of Granton Gas Works and around Caroline Park. This derelict area is often used by people walking fierce-looking dogs, lads on motorbikes and occasionally by folk wishing to set fire to cars (probably stolen ones).

We set off from Granton Point with some interesting plants along the edges of the mown grass - Small-flowered Cranesbill (*Geranium pusillum*), a selection of Speedwells: Wall (*Veronica arvensis*), Common Field (*Veronica persica*) and Slender (*Veronica filiformis*) and both the rayed and rayless forms of Groundsel (*Senecio vulgaris*). I was delighted to find Sea Pearlwort (*Sagina maritima*) by the sea wall and compare its slightly fleshy leaves with very short hair points with annual Pearlwort (*Sagina apetala*) which looks finer and has leaves with longer hair points.

Along the shore some of the factories have planted shrubs, but the grounds not being very well cared for were another source of weedy species. It was nice to see both Common and Long-headed Poppies (*Papaver rhoeas* and *P. dubium*) and to be able to compare Hedge Mustard (*Sisymbrium officinale*), Eastern rocket (*Sisymbrium orientale*) and Tall Rocket (*Sisymbrium altissimum*).

On the waste ground the Northern Marsh Orchids (*Dactylorhiza purpurella*), about 100 spikes, were going over but the Common Spotted Orchids (*Dactylorhiza fuchsii*) again about 100 spikes, looked magnificent.



The area is excellent for grasses and we recorded over 20 different species including both Early Hair Grass (*Aira praecox*) and Silver Hair Grass (*Aira caryophyllea*), Squirreltail Fescue (*Vulpia bromoides*) and Ratstail Fescue (*Vulpia myuros*). It's necessary to compare the length of the glumes to differentiate between these two. We also found two sedges: Hairy Sedge (*Carex hirta*), easy to identify as it is so hairy, and Glaucous Sedge (*Carex flacca*) with its flopping lowest spike. In a small area of water we saw Broad-leaved Pondweed (*Potamogeton natans*), Brooklime (*Veronica beccabunga*) and Branched Bur-reed (*Sparganium erectum*). Des Etangs' St. John's Wort (*Hypericum x desetangsii*) is interesting - a hybrid between *Hypericum perforatum* and *Hypericum maculatum*; it is intermediate between the parents in the number of perforations in the leaves.

We returned to the cars along West Shore Road, the verge having been planted with shrubs but also going a bit wild. There we found one plant of White Melilot (*Melilotus alba*). Some of the planted shrubs we identified are Dyer's Greenweed (*Genista tinctoria*),

Pink Snowberry (*Symphoricarpos x chenaultii*), Mangrove-leaved Daisy-bush (*Olearia avicunnifolia*), Escallonia (*Escallonia x langleyensis*), Olive Willow (*Salix eleagnos*) and Chinese Bramble (*Rubus tricolor*).

Birds noticed along the shore were Oystercatchers and Eider and on the waste ground Linnet, Willow Warbler, Greenfinch and Whitethroat. I'd like to thank everyone who helped with the identification.

LIZ PILLING

CHATELHERAULT

Date Saturday 26th June
Leader Ian McCallum

This was a combined outing of the Glasgow and Edinburgh Natural History Societies to the restored hunting lodge of the 5th Duke of Hamilton. There were 4 Glasgow and 14 Edinburgh members giving a total of 18. After a cursory look at the Visitor Centre, the 18th century garden and the Leopard House, the party split. The keen botanists, with noses to the ground, ably led by Jackie Muscott, made a botanical survey of the area, while the more able-bodied walked down past the herd of the ancient breed of white cattle which used to roam Cadzow forest, to the Old Avon Bridge. From here we walked up the River Avon through spectacular gorges. Prior to passing under the Duke's Bridge there were impressive views of the ancient Cadzow Castle perched high above the gorge. Progress was slow due to the variety of plants to be examined and argued over. The Pyrenean Valerian (*Valeriana pyrenaica*) was much in evidence but the Bird's Nest Orchid (*Neottia nidus-avis*) was not encountered, although listed for the area.

The party crossed the White Bridge and returned to Chatelherault walking on the path which passed a very interesting pool in which frogs, newts, dragonflies and damselflies were seen. Around the pool were several sedges and marsh plants. Before we reached the ancient Cadzow oaks several interesting plants were noted: Great Horsetail (*Equisetum telmateia*), Wood Horsetail (*E. sylvaticum*), Broad-leaved Helleborine (*Epipactis helleborine*), Agrimony (*Agrimonia eupatoria*) and Common Wintergreen (*Pyrola minor*). Back at the hunting lodge we had an interesting tour round the building where the effects of the mineral settlement, causing the building to tilt, gave rise to members surmising on how dancers would manage to cope on the sloping floors.

There was a general get-together in the coffee room in the Visitor Centre prior to members going home.

IAN MCCALLUM



HERIOT-WATT GRASS EVENING

Date Wednesday, 30th June
Leader Graham Swift

A record 22 members for a grass evening, some on their first outing, assembled in the East Gate car park of Heriot-Watt campus. For most, this was their first introduction to these unexpectedly attractive grounds. Suffice it to say here (see account for 2nd June on the Tree Trail) that the campus was developed on what was Riccarton Estate with records dating back to 1315, when it was gifted by Robert the Bruce to his daughter on her marriage to the High Steward of Scotland. The current estate was formed in 1580 by Sir Thomas Craig, a famous lawyer of his day, out of a number of smaller ones. Midlothian County Council acquired the estate in 1966, and gifted the land to the University in 1969. The high quality landscape setting has been protected throughout the development of the University campus.

We first examined the grasses growing between the eastern and southern woodland strip boundary and playing fields. These were mostly the tall-growing, shade-tolerant grasses: Yorkshire Fog (*Holcus lanatus*), Cocksfoot (*Dactylis glomerata*), Rough-stalked Meadow Grass (*Poa trivialis*) and Tall Oat Grass (*Arrhenatherum elatius*). Specimens of the latter were displaying a problem with grass ID: one of inherent variability. Thus, while most were hairless, some were slightly hairy, noticeably on the nodes.

The first dominant grass noted in a clearing before entering the playing field was Sweet Vernal Grass (*Anthoxanthum odoratum*). This has an awned, spike-like panicle, first to catch the eye. A closer examination reveals a tuft of hairs in the position of the auricles, at the base of the leaves. Growing with Sweet Vernal in this dry habitat was the fine-leaved creeping Red Fescue (*Festuca rubra*). This is another variable grass in that the uppermost leaves may be expanded and quite broad if growing in fairly fertile ground.

Further along, on the southern boundary of the estate and beside the track running through the woodland strip was the handsome Wood Millet (*Milium effusum*), its large, drooping, branched, one-flowered inflorescence and a long, pointed ligule being very distinctive. From this point the track swings round to the West Lodge. Between this and the University buildings, in the centre of the estate, is an attractive wildlife meadow and a series of ponds. A flowering plant of note here, growing on the path, was the purple-flowered Smooth Tare (*Vicia tetrasperma*).

There remained just time to see the historic garden surrounded by numerous introduced trees of the Tree Trail, including the rare Cucumber Tree (*Magnolia acuminata*). Unusually the tree was bearing an occasional flower. Not bad for a tree over 100 years old. Just one of the delights on this University campus.

GRAHAM SWIFT

CLUNY HOUSE GARDEN, near ABERFELDY

Date Saturday, 3rd July
Leader John Mattingley

Mr and Mrs Masterton created Cluny House Woodland Garden, near Aberfeldy, in the 1950s. Many of the plants were grown from seeds collected in Bhutan, and the tradition of growing from seed has been continued by their daughter and son-in-law, Wendy and John Mattingley. The original woodland policies were established in the nineteenth century, and two Giant Redwoods of enormous girth and stature testify to these early plantings and stand as huge living pillars.

The garden faces northeast and any direct sunshine is enjoyed only in the mornings. The plants here thrive under shade, including the enormous lily, *Cardiocrinum giganteum*, which flowers in its seventh year and then dies. The increase in light created by the removal of part of a Manchurian Cherry tree was sufficient to scorch the leaves of this plant. Other plants that enjoy the shade and damp are the Candelabra Primulas, Cobra-head Lily, many *Meconopsis* species of all colours, *Actaea*, ferns and orchids. *Tropaeolum speciosum* clammers everywhere. Another *Tropaeolum*, this time *polyphyllum*, grows on the one water deficient patch in the garden, the former driveway.

The garden has been run organically since long before this became fashionable. All weeding is by hand, and home produced leaf mould is spread over the soil afterwards. The leaves rot down for 3 years before the mould is ready for use. Weeds are composted, but to avoid invasion, the resulting compost is only dug into spaces after tree removal. These areas are mulched with leaf mould. Mrs Bolton, who is employed full time from February to October in bringing on plants from seed, helps the Mattingleys in their garden. The seeds germinate in polytunnels and glasshouses, and are transplanted directly from trays into growing locations as soon as they are large enough to compete. Pots are generally only used for plants for sale. Although the garden has the National Asiatic Primula collection, almost every plant has come from the garden's own seedbank or from seed from other specialists. There is no plant collecting for its own sake.

The main group was led by John Mattingley while the children enjoyed following the numbered trail. John explained the mechanics of felling large trees without surrounding damage and showed the depth of bog on a primula-covered slope. Fortunately, rain held off until lunch, which was taken in the ballroom!

The group and John Mattingley then optimistically drove to Balchroich Meadow SWT Reserve at Keltneyburn where the warden, Mrs Dickens, had kindly left a supply of reserve leaflets for us. The rain had gone, but the long grass was soaked and waterproofs were needed.

Orchids paint the meadow a predominantly pink colour, although in places the creamy Greater Butterfly Orchids (*Platanthera chlorantha*) dominate. Small White Orchids (*Pseudorchis albida*) thrive on some acid soils and Birds-nest Orchids (*Neottia nidus-avis*) grow in deep shade under birch. There are swarms of *Dactylorhiza* spp. and many Fragrant Orchids (*Gymnadenia conopsea*). There was even a single, rather pitiful Twayblade (*Listera ovata*). The uncommon umbel Spiguel (*Meum athamanticum*), was found but past flowering. A family of Green Woodpeckers noisily objected to our presence.

The rain fell again as we drove home. It had, however, held off long enough to allow us a memorable day.

DAVID AND SARAH ADAMSON

NEWBATTLE ABBEY

Date Wednesday, 7th July
Leader Alistair Scott

Extracts from
Trees at Newbattle Abbey - Gazetteer
 by Alistair Scott, 1999

Newbattle has been a famous tree place for over two centuries, particularly for its chestnuts, beeches and sycamores. For good ecological reasons the native tree flora of Britain is minute, being confined to 35 species. By way of compensation some 1700 tree species from across the non-tropical world grow happily somewhere in these islands. Trees from the west of North America, from Japan, from parts of China and from the Caucasus grow particularly well.

SYCAMORE - *Acer pseudoplatanus*. To Americans this is the Sycamore maple. To older Scots it is a Plane. Under whatever name, it has been noted as an ornament to Newbattle for centuries. It may date from 1550 and certainly joins the group of large, handsome old Sycamores in Central Scotland. The tree at Corstorphine in Edinburgh which was blown down on Boxing Day 1998 had a planting date before 1600. A tree at Tynninghame is 26' round. Sycamores come from continental Europe but get on exceptionally, surprisingly well in these windy islands, right down to the coast and up into the hills. This tree was measured in 1904 as 95' high, with a girth of 16'. It is now 18' round but has been dying back at the top for a decade or so. Admire this arboreal monument but don't linger underneath on a windy day.

FARGES'S FIR - *Abies fargesii*. Identification was confirmed by Keith Rushforth, an expert in this genus. This is the most surprising tree in the list. Who was at Newbattle 30 odd years ago to plant what is a very rare tree indeed? There are two trees at Dawyck, near Peebles - planted in 1923 - and one in the RBG, but few anywhere else. This is a handsome fir from Szechwan and Hupeh, in general shape like an *Abies veitchii*, the upper branches horizontal, the lower sweeping gently down until upswept at their ends. The diagnostic features are the hairless, rich deep red shoots and the glossy

needles, short on top, longer at the sides, notably bifid. Cut the needle across and you will see that the resin canals are median. The tree was 'discovered' by Pere Farges, introduced to the USA by Wilson in 1901 and to Britain in about 1907. So, a pleasant mystery.

YEW - *Taxus baccata*. What everybody knows about Yew trees is true. They can stay alive for very much longer than any other European tree. It is however often impossible to assign a reliable date - not least because the largest, presumably oldest trees are hollow. The Great Yew of Ornniston, not far from Newbattle, is first mentioned in 1474, when it must already have been a noticeable tree. It had a girth of 18' in 1834 and is now 20' round and entirely healthy. By these standards the avenue of Yews at Newbattle contains comparative youngsters, probably good for another 500 years. Each tree is either male or female.

OREGON MAPLE - *Acer macrophyllum*. The only Oregon Maple to rival this in height or girth is a tree in the Royal Botanic Garden, Edinburgh. Oregon Maple is something of a misnomer since the tree has an enormous natural range from Alaska to California - and from the coast in to the foothills, albeit it is perhaps at its natural best around Puget Sound and the lower Columbia River. It is both a tall understorey to the coniferous forest and a tree of roadsides, small towns, farm lots and the like. The leaves are huge, the largest of any Maple, but like all Maples subtly arranged to catch the light.

ENGLISH OAK - *Quercus robur*. There are two Oaks native to Britain - *Q. robur* and *Q. petraea*. Since both have a large variation of detail within the species, it is often difficult to be sure which is which. The most secure feature is the acorn - when available. The *robur* acorn is on a stalk or peduncle; the *petraea* acorn is sessile or set more or less directly on the stem. This tree however not only has the heavy horizontal limbs of a typical robur, but the characteristic features of the leaf. These are 4-5 lobes each side, a short leaf stalk and strongish ears or auricles where the leaf reaches the stalk. *Q. robur* is the tree of the lowlands, including the Scottish lowlands, being quite happy on heavy soils provided they are not too wet. Potentially it has a lifespan of 500 years, eventually making the massive tree symbolic of dogged endurance. Given that this is the original native dominant tree of the area, there are surprisingly few around.

SPANISH CHESTNUT - *Castanea sativa*. There are 3 Spanish Chestnuts to the left of the drive as you come in and one behind the house. All are a fair size and difficult to measure with any precision at this stage. *Sativus* means 'cultivated' and is contrasted with *agrestis* or *sylvestris* meaning 'from the wild'. The Sweet Chestnut is Mediterranean in origin, but so widely planted for its nuts that the original distribution is obscure. In Scotland it has been used only for ornament and has grown remarkably well. There is a tree at Strathpeffer with a planting date of 1550 which is 25' 6" in girth and still with a full crown. There is a healthy tall stump of a Chestnut at Melville Castle on

the other side of Dalkeith, somewhat perversely known as 'Rizzio's Oak' which is 24' 7". It is therefore quite feasible that this tree started life while Mary, Queen of Scots was in Edinburgh.

HORSE CHESTNUT - Aesculus hippocastanum

Although the Horse Chestnut is a near constant across the towns and villages of Britain, it is not a native. It grows naturally only in very limited mountain areas in the Balkans and has been in Britain for less than 400 years. Growth tends to be very rapid in the early years and slow or very slow thereafter so that it is often impossible to attach a reliable date to any tree. Because the Chestnuts, ('cheggies' in Scots or 'conkers' in English) are of such importance to small boys, trees are always well known in the locality. This indeed has the local name of 'Mother and 3 Daughters'. Alas, the American Grey Squirrel now tends to move in on the crop of chestnuts before they are fully ripe, thus depriving small boys and the rest of us of an annual pleasure.

ALISTAIR SCOTT



PLEAN COUNTRY PARK

Date Saturday, 10th July
Leader Mike Blunt, Ranger

Much work has been done to restore the bings around Plean in what is now Plean Country Park. In the early 1970s the top layer was taken off the coal bing and used to level it. From then until the 1980s the land lay bare except for tough grasses; there were no trees. Then all of a sudden in the mid-eighties Birches sprang up. The reason for this is probably that it took these 15 years for a mulch layer to build up enough for windblown Birch seeds to establish and their leaves to generate more mulch.

There remained large areas where this regeneration did not happen; some were steep slopes, but there were also large flat bare areas. Hay was brought in off the meadows and within the next three years meadow flowers appeared: Mouse-ear first, then grasses and now Birch and Oak. The spreading of the hay had the effect of compressing the 15 years of regeneration into three.

There were lots of lovely little corners where we saw Northern Marsh Orchid (*Dactylorhiza purpurella*); Heath Spotted Orchid (*D. maculata*); Wavy Hair Grass (*Deschampsia flexuosa*) looking its best with its attractive red stems rippling in the gentle breeze; Yellow Rattle (*Rhinanthus minor*) and a Yellowhammer; Meadow Brown Butterflies, Ringlet Butterflies and Burnet Moths.

We then came to the wildflower meadows to be met with the wonderful sight of hundreds of Greater Butterfly Orchids (*Platanthera chlorantha*) in full flower. This was a very good year for them. The meadows are cut only once, late enough for the flowers to have seeded. The cuttings are removed so that the soil does not become too fertile for the wild flowers.

After lunch on a log by a stream in the sun George McDougall took us to Tappoch Broch at Torwood and told us about it while we admired its strategic position with views over the Forth Plain to the Ochils.

SANDRA STEWART

CRAIL

Date Saturday, 17th July
Leader Lyn Blades



A full busload of Nats left Edinburgh on a somewhat dreich morning. With the forecasters promising us a day of rain it was encouraging to find that the Fife Coast was visible by the time the bus approached Largo. For July the day was rather chilly but it did stay dry.

On all outings it is notoriously difficult to keep a group together. On this occasion there was no point in trying! So we ended up with at least six separate parties, each doing their own thing. Some went round Crail by various routes, while the majority set off along the coastal path to the Caves and beyond. No one reported finding wall paintings in the cave but there were plants, birds and the occasional butterfly to be seen on the way. The rate of progress varied from 'slow botanical' to brisk walking. One member of the party made it as far as Anstruther (but then, he only came for his lunchtime bag of chips!).

Some members of the party sat down for lunch near a small salt marsh, which turned out to have an interesting flora.

Besides the more usual species: Sea Milkwort (*Glaux maritima*), Sea Spurrey (*Spergularia sp.*), Distant Sedge (*Carex distans*), Saltmarsh Rush (*Juncus gerardii*) and Saltmarsh Grass (*Puccinellia maritima*) it contained a most unusual grass: Hard Grass (*Parapholis strigosa*) is a very odd-looking grass since the flower spikelets are sunk into depressions on the main stem (see illustration below), which remains apparently cylindrical until the seeds are shed. It's a rare grass north of the Forth, and Mary Clarkson (who has a plant list for Fife) subsequently discovered that it was believed to be extinct - so it was a most exciting find. There will now be a dot for *Parapholis* in Fife when the new *British Plant Atlas* appears.

A couple of other comparatively rare saltmarsh plants were found further along the coast: Long-bracted Sedge (*Carex extensa*), mainly southern and western; and Sea Wormwood (*Seriphidium maritimum*), mainly southern.

Everyone seemed to enjoy their day out, whether it was spent exploring the town and drinking tea or having a walk along the coast. We do try on coach outings to cater for all tastes.

JACKIE MUSCOTT and LYN BLADES

THE GROUNDS of LAURISTON CASTLE

Date Wednesday, 21st July
Leader Eunice Smith

Lauriston Castle and its grounds were donated to the people of Edinburgh by Mr & Mrs W. R. Reid in 1926. It was their wish that the property should be maintained as it was at the time of their deaths. The grounds are extensive (thirty acres of parkland and gardens) and contain a rose garden and a pond. The grounds have 2 croquet lawns - enjoyed by a thriving croquet club (one of two in the Edinburgh area). The substantial greenhouse had fallen into a state of disrepair in relatively recent times but is now being gradually restored to its former glory. The grounds are always open for visitors to enjoy the pleasant walks and stunning views over the Forth. The house is open for public visits at selected times.

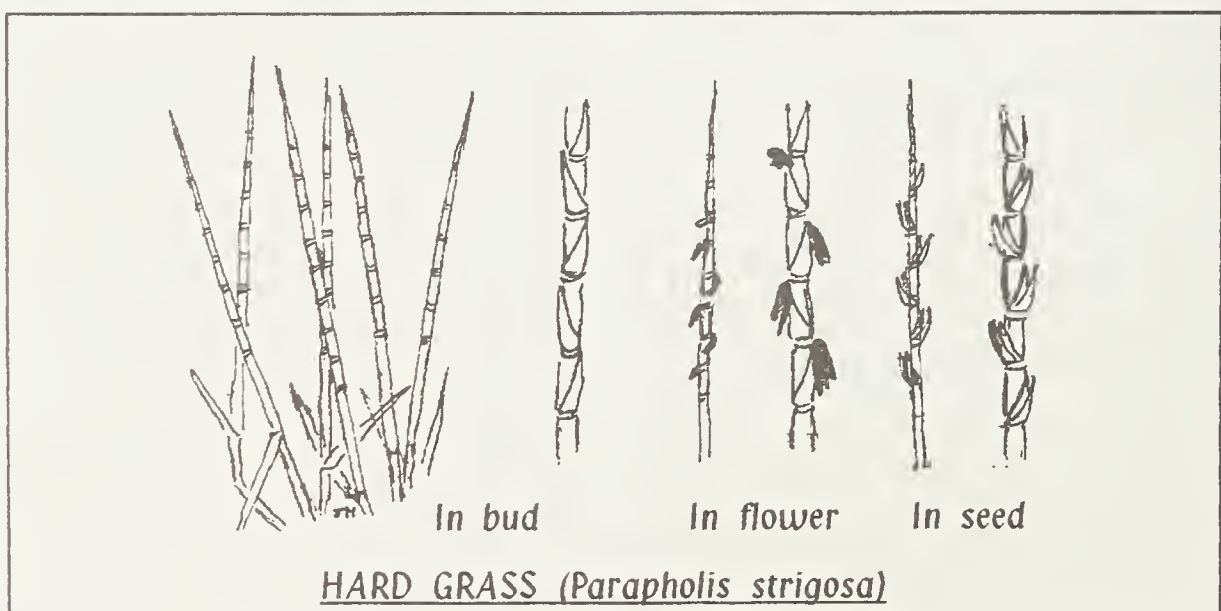
There is evidence of an earlier castle on the site and a 16th century tower (built by Archibald Napier, the father of John Napier who invented logarithms) remains as part of the substantial and elegant building. In the latter part of the 17th century the owner of the property was John Law, the Comptroller-General of the Finances of France. Part of the life story of John Law was featured in the play 'The Speculator' in this year's Edinburgh Festival. The main part of the present building dates from the end of the 19th century.

When the Reids acquired the property they found that much work was required both in the house and to the grounds. The grounds have many interesting trees but the previous owner had not permitted tree maintenance or the control of undergrowth. The present-day condition of the grounds owes much to Mr Reid's attentions.

We were interested to see the fresh young growths under the mature canopy of a Monkey Puzzle (*Araucaria araucana*) tree near the house. In the tree and shrub border near the north wall a large specimen of the Nutmeg Tree (*Leycesteria formosa*) was noted; this is a hardy deciduous shrub which has large purplish flowers followed by small dark berries.

Two interesting grasses were found on our evening visit. The first of these, the Various-leaved Fescue (*Festuca heterophylla*), was probably introduced as a feature in the garden. Our attention was drawn to its slight yellowish tinge. Common names can really help those of us who have difficulty with the multiplicity of grass names and the second notable grass, Wood Poa (*Poa nemoralis*), bears the occasional name 'Heil Hitler' grass on account of its raised 'arm'. The Giant Bellflower (*Campanula latifolia*) was seen in bloom near the front of the house (see footnote).

Disappointment was felt by several of us that the golden 'Chicken of the Woods' fungus (*Laetiporus sulphureus*) was not on show on its usual tree stump near the pond. It was also not possible to find the Broad-leaved Helleborine (*Epipactis helleborine*); several specimens of this plant can normally be found in the woodland walk nearest to Cramond Road South.



That area of the grounds is now densely covered by ivy , to the detriment of some of the more interesting plants.

Another missing item of natural history interest was due to the clearance of a large area of nettles which, in past years, has supported a crawling mass of black caterpillars. It is recognised that the loss of winter hibernation sites contributes to the reduction in the butterfly population but it is also obvious that a substantial loss of the food plant must have a similar major detrimental effect.

Another concern is that the parking of motor vehicles has led to soil compaction in some areas. However there is some expectation of a new flush of weed and fungi at Lauriston Castle next year as a result of the major ground disturbance which has taken place to allow the installation of a new water main under one of the fields.

FOOTNOTE

C. latifolia : Graham Rotheray is interested in records of the rare fly, Platyparae discoidae which occurs in association with this plant. By the time the seeds have developed the fly larvae have finished feeding and, although there is no visible sign of them, can be found within the stem near the base of the plant. (Contact: The Royal Museum of Scotland)

REFERENCES:

Edinburgh Corporation Libraries and Museums Committee (1963) *Lauriston Castle, Edinburgh*.
Fairley, John A. (1925) *Lauriston Castle: the estate and its owners*. (Oliver and Boyd, Edinburgh.)

EUNICE MCA. SMITH

ABERLADY

Date Saturday, 24th July
Leader Bill Clunie

19 members of the Society assembled at 10.30 in the Aberlady Bay Nature Reserve car park. After a brief introduction I led the party along the main road towards Aberlady village to look at the waders and ducks on the banks of the Peffer Burn. After about half a mile we stopped and had good views of Whimbrel and Greenshank along with Wigeon, Mallard and some of the commoner waders. We then retraced our footsteps and crossed over the wooden bridge in the Reserve proper. Greylag geese, Shelduck and a single Pink-footed Goose were observed on the mudflats. As we approached the Marl Loch a young Cuckoo was perched on a post in front of us, then flew off as we approached.

There was nothing of note on or around the loch and we then proceeded towards the Sewerage Works observing a Reed Bunting on the way. We continued on towards the scrape where there was a Moorhen, and then onto the beach. We went eastwards along the beach to Gullane Point where we stopped for

lunch. The usual Gannets, Cormorants, Shags and Red-breasted Mergansers were seen on the sea or flying past. After lunch we continued eastward to the Hummel Rocks where we saw a party of Golden Plovers. We returned via the Dunes Slacks and Marl Loch to the car park. Nothing of note was seen on the way back.

BILL CLUNIE

BAWSINCH / DUDDINGSTON LOCH WILDLIFE RESERVE

Date Wednesday 28th July
Leader Colin McLean

Colin has written an article; see page 19 .

WEST CRAIGIE QUARRY

Date Wednesday, 4th August
Leader Jim Stewart

Jim Stewart has led 3 spider evening sessions, first of all at Red Moss, then to Flotterstone, and lastly at West Craigie Quarry, near Turnhouse. Each has been a treat, and beating the vegetation for specimens, sucking them into transparent plastic tubes called 'pooters' and bringing them to Jim for identification and release is great fun for every age. As well as spiders, we found 2 large Sawfly Caterpillars, earwigs, ants, aphids, Iridescent Beetles (on Willow) and a 2-spot Ladybird.

DAVID ADAMSON

The spider outing to Craigie Quarry was quite disappointing in that very few specimens were found. Why, I know not, because I expected that habitat to provide a range of species from the mature trees, shrubs, tall vegetation and even under stones.

However we did find two Crab Spiders representing the two sub-families into which the Thomisidae is split. The first of these, the Misumeninae is characterised by having the femora of the first two pairs of legs obviously much stouter than those of the other four legs. Xysticus cristatus is a very common member of this group and can be identified by its pattern even when immature. The other sub-family, the Philodrominae, have all the femorae less obviously different and was represented by a species of the genus Philodromus. The species was either aureolus or cespitem but the two are not reliably separated unless adult, which our specimens were not.

Although to my knowledge no one found an orb web, the other three species discovered were in fact orb web builders. Araneus diadematus, the common 'garden cross' spider makes a web which can be quite large and which has the centre circle filled in with what appears to be a haphazard arrangement of silken thread from which a signal thread leads to a retreat hidden away in the supporting foliage. All of

the specimens of *Metellina* seen were immature and consequently not determinable to species, but were most likely *M. mengei*. This spider produces a web with a hole in the central hub and no signal thread. Undisturbed it can be seen sitting spread-eagled across the hole. The third orb web builder was *Zygiella x-notata*, a spider more usually found around buildings where it often spins its web in the upper corners of windows. This web is readily recognised by the absence of spiral threads in a sector between two radii, and close inspection of this space will reveal a signal thread running from the hub to a retreat in the corner of the window.

JIM STEWART

DRAGONFLIES

UNION CANAL and CRAIGTON QUARRY

Date	Saturday, 7th August
Leader	Greg Fitchett

The weather was chilly, overcast and damp - not quite suitable for dragonflies! However we set off from Winchburgh along the canal branching off to see a large deep clay-pit alongside which runs a railway line. This pond is fed by an underground spring and the water level has been slowly rising since it was pumped out many years ago, making it difficult to get down to the water's edge. The Common Darter, among others, breeds here. The rising water poses problems to the adjacent railway line. Will the clay-pit be again drained or perhaps infilled with rubbish?

Already the botanical interest was evident. There were swathes of Meadow Cranesbill (*Geranium pratense*), Field Scabious (*Knautia arvensis*), Knapweed (*Centaurea nigra*) and Red and White Campion (*Silene dioica* and *S. latifolia*). Our party soon straggled out as we continued along the towpath where Common Water Plantain (*Alisma plantago-aquatica*), Gypsywort (*Lycopus europaeus*), Dark Mullein (*Verbascum nigrum*) and Marsh Woundwort (*Stachys palustris*) were noted.

At one point we crossed the canal to see an area where there had once been a marsh and pool where good numbers of duck overwintered and passage wader, such as Ruff, appeared. Now alas it has all been infilled in the interest of efficient farming with the exception of a small pond and even that has a road through the centre. We soon reached Craigton Quarry. The water is shallow with a fair spread of vegetation including False Bulrush (*Typha latifolia*) which is already threatening a long-term takeover. Stonewort, an underwater alga is very common. Centaury (*Centaureum erythraea*), with its pink flowers, brightened up the stony ground.

Dragonflies were scarce due to the weather; only the odd Emerald Damselfly among the sedges, including one emerging, were seen by the wellington-booted. However a pond-net was used to good effect and several larvae of the Common Darter, a species

fast spreading in Scotland, and a Black Darter were seen.

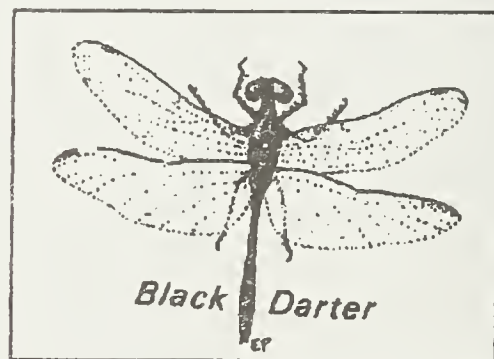
Damselfly larvae, mostly Common Blue, delighted us with their sinuous swimming actions, obviously different from the jet propulsion of the true dragonflies. One dragonfly larva, noticeably different from those previously seen, having a more cylindrical body and much shorter legs, was identified as a Common Hawker. One male Emerald Damselfly, resting among the emergent vegetation, was netted. Having seen so far only larvae and exuviae, which are dull coloured, the beauty of this winged insect was quite breathtaking. After inspection it was released to fly off unharmed.

Greg then took us to see a rare plant, Broad-leaved Helleborine (*Epipactis helleborine*), some distance away and soon the party were straggling along the tow-path botanising furiously. We branched off through a maze of tracks by a bing to reach our objective. Some imaginative members marked the track with arrows which fortunately the laggards noticed and all eventually reached the spot to admire the plants, rather inconspicuous under the trees.

Great clumps of Teasel (*Dipsacus fullonum*) at the foot of the bing were unmissable. The canal itself had broods of Mute Swan, Mallard, Tufted Duck and a pair of Moorhen all apparently surviving the attentions of the jet-black Mink which was briefly noted on the far bank.

Our thanks to Greg Fitchett for an interesting tour. It would be worth returning on a sunny day to see the flying dragonflies, butterflies and other insects. On a more sombre note the day emphasised the sorry state of fresh-waters in the area - two man-made with an uncertain future and one natural and now gone.

BETTY SMITH



POSTSCRIPT

On a return visit some two weeks later, when the sun was shining, there were Dragonflies and Damselfs both flying around and resting on stones within a few feet of our lunch spot. We saw Common Hawker, Common Darter, Black Darter, Emerald Damselfly and Common Blue Damselfly, but we were too late to find the rare Four Spot Chaser.

L.B

CANONMILLS LOCH

Date Wednesday, 11th August
Leader Elizabeth Farquharson

Once upon a time - and it was a very long time ago - Canonmills Loch was thought to have been about the size of Duddingston Loch. What we do know is that by the time David I built flour mills in 1143 for the Canons of Holyrood Abbey beside the Water of Leith, the loch was of a more modest size. At this time the loch probably occupied the ground that lies between Broughton Street and the foot of Dundas Street.

The water supplying the loch seems to have come entirely from the Water of Leith which in the past carried a much greater volume of water and sometimes caused serious flooding. In 1821 when the river was in flood, a coachman and his horse were drowned at Inverleith and in August 1948 after very heavy rainfall, the retaining wall in Warriston Road was overtopped, a house in Warriston Crescent had over 3 feet of water in the basement and greyhounds were drowned at Powerhall Stadium.

The loch was partially drained in the mid 1700s with further drainage in 1865 during the construction of the Royal Gymnasium. The drained area came to be known as the Canon Mill Haugh. Although the loch was only 4 feet deep there was trout fishing and duck shooting, and after the Nor' Loch was drained Canonmills Loch became the venue for curling. Early pictures show sheep grazing on the drained area.

The evening outing started at the junction of Dundas Street and Fettes Row, where one could see the modern bank building extending well below street level onto the Haugh. The building is surrounded by the equivalent of a moat which has been densely planted with evergreen shrubs and small trees which must give welcome shelter to small birds in stormy weather.

The walk along Fettes Row and Royal Crescent follows the outline of the original loch. There was a pause at the foot of Scotland Street which gave its name to the railway station in the hollow below. At this station engines were replaced by special haulage equipment for the uphill journey to Waverley Station where the trains emerged on the far side of Platform 19. After the tunnel was no longer used by trains it had varied uses - as an air raid shelter; for the storage of cars by one of the big garages; for research in atomic physics; for growing mushrooms; and in 1979 missing mailbags were found there! The tunnel is now securely sealed.

From Scotland Street a short downhill walk took us to the Rodney Street end of Eyre Place which runs along the northern side of the loch basin. Remains of the old mills can be seen on the north side of the road. These were described as having been built between a tannery and St. Mark's farm. The name of the farm has been preserved in a bridge and a public park near the Crematorium.

From Eyre Place we entered what is now a public park and had a closer look at the site of Scotland Street Station and the two tunnels, one already mentioned, and the other running under Heriot Hill from a station of that name. Close to the tunnels is a one storey building, the Scotland Yard Adventure Centre for Handicapped Children. From the days when sheep grazed on the Haugh, the ground had an interesting career. After drainage was complete the area became a large and popular amusement park, known as the Royal Gymnasium. It was ultimately defeated by the weather! Then a well-known football team had its quarters there, and now it is an attractive small park.

After leaving the park the next point of interest is the site of James Eyre's house. James Eyre established a brewery at Canonmills and built himself a house overlooking the Haugh. With the passage of time the house was demolished and replaced by a church, which in its turn was demolished and replaced by a block of flats.

We passed little more of interest on the circular walk back to our starting point. Anyone interested in the area would find Joyce Wallace's book on *Canonmills and Inverleith* well worth reading. Sadly it is out of print but can be read in the Edinburgh Room of the Central Library. Also there is a small booklet *Once upon a Haugh* by Juliet Rees which is full of interesting facts and is produced by the Adventure Centre.

ELIZABETH FARQUHARSON

DOWLAW to LUMSDAINE CIRCUIT

Date Saturday, 14th August
Leader Margaret Watson

Our assembly point close to Dowlaw farmhouse afforded us a fine panorama of the Berwickshire and Lothian coastal belt, and, as it turned out, the highlights of this excursion were the land and seascapes of this dramatic coastline, where the Lammermuirs meet the sea. We started off with a look at Dowlaw Loch, where the water level was pretty low and the edges well churned into mud by cattle. No wildlife of unusual interest here, but Coot, Moorhen, Mallard and a frog were noted, plus a range of marsh-habitat plants including Lesser Spearwort (*Ranunculus flammula*), Redshank (*Persicaria maculosa*), and Marsh Speedwell (*Veronica scutellata*).

Then it was a ramble by path or sheep track through gorsy moor and rocky outcrops and damp areas where Marsh Thistle (*Cirsium palustre*) abounded, with Ragged Robin (*Lychnis flos-cuculi*) and Sharp-flowered Rush (*Juncus acutifloris*). Several Green-veined White Butterflies were on the wing, with large numbers of a late brood of St. Mark's flies, and we disturbed innumerable little grass-moths as we passed.

The rusty hulk of an ancient threshing machine was a landmark as we crossed the old Dowlaw-Lumsdaine drove road. Looking down from the bridge we saw Yellow Flag (*Iris pseudacorus*), Meadowsweet (*Filipendula ulmaria*), Great Willowherb (*Epilobium hirsutum*) and Angelica (*Angelica sylvestris*). The view down the narrow, very steep Dowlaw Dean to the sea was spectacular. With binoculars we could pick out Guillemots in the water, many gull flocks and an occasional line of Gannets. Continuing along the rough grassy slopes of Brander Heugh by the cliff fence, we would have been glad of an experienced geologist to explain the intricacies of the folding of the predominant sharp-edged Greywacke and the softer Old Red Sandstone.

We stopped for lunch in sunshine on these slopes, with fine views of St. Abb's Head, but possible siestas were cut short by threatening black clouds which, as we made our way inland towards Lumsdaine, opened to drench us with very heavy rain. As we passed the Wheatears Guesthouse, the owners (friends of mine) ran out and offered us all tea, biscuits and shelter, which a number of us gladly accepted, while others, wishing to get back to Edinburgh early, were directed on to the drove road back to Dowlaw. Refreshed and in much improved weather, we resumed our walk, now past harvested fields and old hedgerows with familiar "weeds of cultivation" and common birds.

Throughout the day's walk we had been struck by the extent of dwarfing and contortion of trees and hedges on this windswept Coldingham Moor, though in some areas round Lumsdaine there has been recent afforestation with both conifer and hardwood.

An unusual find, at the edge of Dowlaw Farm (studied through hand-lenses) was of a small spider with bright scarlet mites on its legs! Swallows were still swooping round as we returned to the cars, but for some, this was the start of a secondary excursion down to Fast Castle - the opportunity to explore another section of this fine coast was not to be passed by.

MARGARET WATSON

MUSSELBURGH LAGOONS

<u>Date</u>	Saturday, 21st August
<u>Leader</u>	Harry Dott

The group of 22 who met at Goose Green by the River Esk mouth enjoyed a warm, clear sunny day - better than most days before or after. The tide was almost at high water so that most wading birds had moved off until their feeding ground would be exposed again. Only Mallards, a few Eiders and three Teal (all in dowdy eclipse plumage), many Mute Swans, a Cormorant and one Red-breasted Merganser (close), were lingering around with the last few Redshanks and Sandwich Terns crying overhead.

So we headed on to the west ash-lagoon where the expected shorebirds were and where the sun

behind us gave excellent light. The distance to the resting birds was rather far for binoculars though two telescopes gave members turns at better views. Sandwich Terns and Oystercatchers plus a few Common Terns and gulls were the nearest birds, with the scaley-grey young Sandwich Terns obvious. Further out were tight-packed flocks of several hundreds of birds trying to gain valuable rest, many with beaks and heads buried into their back feathers. The closest packed birds were Bar-tailed Godwits and Knots, some of the males of which were still showing some of the russet red colour of their breeding plumage. These birds would have not long arrived at Musselburgh from their high-Arctic tundra nesting grounds. Alongside these species were many Curlews, Redshanks, Golden Plovers, returned from summer moors and meadows, a few Turnstone also from the far Arctic, and three Ringed Plovers standing on their own.

From here we proceeded on to the 'scrape', a five-pool wet area scraped out of the reclaimed ground intentionally for birds. We discovered that work was just beginning on the construction of three long-awaited viewing shelters, as Dave Allan, the Warden, explained to us. Here the sun's heat gave us problems of shimmering air over the water, blurring the views of some of the birds. This did not reduce the splendour of the many Lapwings showing their iridescent green to full effect. A young Grey Heron fished obligingly close to us. Black-headed Gulls and Sandwich and Common Terns moved about in front of us. Three juvenile Shelducks and some Mallards and Teal quietly skulked further back. The waders included Redshanks, Dunlins, several Knots and one or two Turnstones (both unusual on fresh water), one Grey Plover, one Common Sandpiper and one Greenshank feeding actively. At the further pools, while the group enjoyed lunch, we encountered two more Greenshanks, two Ruffs, two Curlew Sandpipers feeding belly-deep close to three Dunlins, and one Snipe showing well. Also around were Stock Doves, a Kestrel, Linnets, Goldfinches, Pied Wagtails, Swallows, House Martins and one Swift. Two Peacock Butterflies were also a welcome sight.

The party returned by going along the sea wall. Most waterfowl were keeping well out to sea. The species most conspicuous were Great Crested Grebes, perhaps a hundred scattered over the water, and almost all still in summer plumage. Also present but mostly rather distant were at least one Slavonian Grebe. Eiders, some Red-breasted Mergansers and a few Velvet Scoters.

As we rounded back into the river estuary to finish the visit, the tide was now low and we were able to watch birds more closely as they were feeding. Particularly good well-lit viewing was had of a group of Bar-tailed Godwits probing their long beaks up to their foreheads into the sand. As they fed, Black-headed Gulls would sidle up closer just as they thought a Godwit might pull out a choice item which they could thief, but the Godwits, always glancing sideways at the Gulls while probing, would turn away and avoid the Gulls in a well-practised manner.

A good day was had by the humans, and let us hope Musselburgh continues to provide good feeding and resting grounds for birds in the future uncompromised by other human activities.

HARRY DOTT

MARCHMONT, GREENLAW

Date Saturday, 28th August
Leader Duncan Gill

On a glorious sunny day, a party of eighteen set out on a tour of the Marchmont Estate, by kind permission of the owner, Mr. Oliver Burge. For once, the party kept together riding on a hay cart and accompanied by the factor, Douglas Tweedie. During the course of the morning he gave us a very lucid account of the past and present history of the estate, which comprises some 2,500 acres of land. The management has embarked on a policy of mixed farming since taking over the estate some 10 years ago. Conservation and encouragement of the wildlife population has been a major consideration in land use. Previously the estate had been given over to intensive arable farming with the resulting depredation of hedgerows and other ecological niches favoured by the local flora and fauna.

We passed fields of wheat, barley and oats, interspersed with woodland glades and pastures grazed by sheep. We were shown examples of "set-aside" fields, for which E.U. grants had been obtained. In one such field, clover is being grown over a period of 5 years with the aim of improving the soil by natural means, utilising this plant's property of nitrogen-fixation. Other improvements for cultivation include the addition of lime to counteract the acidity of the soil in this area. It was remarked that the land was adjacent to rough moorland which was covered with bright purple heather at this time. In another fallow field, a series of squares was ploughed each spring to encourage the nesting of Lapwings in the furrows. This practice has been so successful that the farm has received awards, 1st in Scotland and 4th in UK, from the Lapwing Conservation Society. In general, the conservation policy has led to a noticeable increase in the number of birds of prey. Buzzards, Kestrels and Sparrowhawks are now common, and there is a population of Tawny Owls and Barn Owls, assisted by the placing of owl boxes around the farm.

The original owner of Marchmont was Sir Patrick Hume. As a Covenanter, he fell foul of the law and according to folklore, he took refuge in the vault of the nearby Polwarth Church, aided by his daughter, Lady Grizell. He escaped to Holland and there joined the court of William of Orange who, after his succession to the throne, rewarded Hume for his services by creating him Earl of Marchmont. Marchmont house, designed by Adam and built in the 1780s, is now run by the Sue Ryder Foundation as a hospice for the terminally ill. Of the other properties on the estate, we looked around Eastfield Colony with its old farm buildings, an attractive

Georgian house and a beautifully restored stable block housing some splendid hunters. The Dutch influence was evident in some architectural features here and in the design of the church steeple.

The old church vault still exists and can be viewed through a barred window at ground level. We were intrigued by its contents of 4 lead coffins belonging to members of the Hume family interred in the early 18th century. On return to Woodhead Farm we bade farewell to Douglas and Leslie, our driver, who were anxious to attend to the harvest.

For the afternoon excursion our interest switched from farming to geology. It entailed a walk over Greenlaw Moor to view the unusual feature of the Kaimes. This is a prominent, semi-circular ridge, some 2 miles in length, formed from glacial deposits. The more adventurous of the party walked on to Fangrist Burn where they were delighted to find relatively rare specimens of the Lesser Water Parnip (*Berula erecta*). In all, this was a most varied and enjoyable day's outing, for which we were grateful to our leader, Duncan Gill.

MARGARET PERRY

MARCHMONT - ADDENDUM

We started our walk to view the 'Westruther Kaimes' from Grid point 682517 on the Westruther to Duns road. These, situated 2 kilometres south of the road, are typical eskers: narrow and steep-sided, and consisting of glaciofluvial sands and gravels. They indicate the course of a sub-glacial stream. They are likely to have been laid down in the waning phase of glaciation in ice-walled channels running under ice that was deteriorating and had become almost stationary. These particular ones run for almost 3 kilometres across flat moorland.

MUNRO DUNN

THE HIRSEL, COLDSTREAM

Date Saturday, 4th September
Leader Mike Richardson

Lacking our leader who unfortunately was ill, the 11 members showed little inclination to leave the sun-drenched lakeside! Many pairs of binoculars were in evidence, but not many baskets, though this was a fungus outing - well the weather had been very dry.

Eventually we dispersed into Dundock Wood and a surprisingly varied collection of fungi was laid out at lunch time for Mary (Clarkson) and Eunice (Smith) to identify.

The 2 Hirsell bird specialities, Nuthatch and Marsh Tit were seen. Those not rushing back to Edinburgh for Festival events lingered in the courtyard over tea and cakes. A thoroughly enjoyable day.

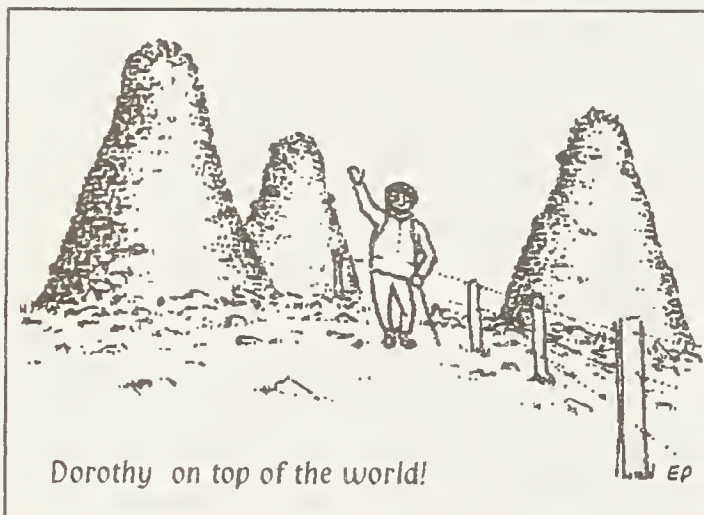
JEAN MURRAY

YAIR

Date
Leader

Saturday, 11th September
Graham Swift

Despite a dire forecast, the day dawned cloudy but bright as 13 members left Edinburgh (and 2 friends by bicycle!) for Lindinny Wood car park on the edge of Yair Forest. The route taken for the walk was along the private road leading to Yair House, then through woodland and a wooded clearing along the Southern Upland Way (S.U.W.). After lunch enjoyed in the sunshine, perched on a convenient pile of logs beside the forest track, all agreed to climb further up the S.U.W. to inspect mini-ponds on the edge of Minchmoor. Surprising to the leader, all climbed on to Minchmoor to reach the Three Brethren, a height of 1523ft. and a climb of over 1000 feet! The Three Brethren are three identical cairns, 9 feet tall and 6 feet in diameter at the base. They mark the boundary of the estates of Yair, Philiphaugh and Buccleuch.



Across the road from the car park above the Tweed, stately Grand Firs (*Abies grandis*) were noted. Other conifers of note at the start of the walk were Douglas Firs (*Pseudotsuga menziesii*) and an Atlantic Cedar (*Cedrus atlantica*) in the grounds of Yair House; a Western Hemlock (*Tsuga heterophylla*) and a Red Oak (*Quercus rubra*) in the wood above the private road. In the wood, off the S.U.W. hidden by Douglas Fir and only detected by a cone on the path, stood a solitary Wellingtonia (*Sequoiadendron giganteum*). From its girth of approximately 20 ft. this tree would be some 150 years old. Moving through the undergrowth here was a flock of Great Tits and Long-tailed Tits.

The roadside verge featured White Butterbur (*Petasites alba*), Angelica (*Angelica sylvestris*) and Common Valerian (*Valeriana officinalis*). An unusual shrub was Ninebark (*Physocarpus opulifolius*) from North America. The limestone dykes on either side of the road were covered with Polypody (*Polypodium vulgare*), Maidenhair Spleenwort (*Asplenium trichomanes*) and Hart's Tongue (*Phyllitis scolopendrium*) ferns.

Before the woodland clearing was reached, growing on the forest floor was the common but highly poisonous Brown Roll-rim fungus (*Paxillus involutus*). In the clearing dominated by Tufted Hair-grass (*Deschampsia caespitosa*) and Marsh Thistle (*Cirsium palustre*), the sedges *Carex binervis* and *C. viridula* were noted.

Other plants of wet areas were Spiked-Rush (*Eleocharis palustris*), Lesser Spearwort (*Ranunculus flammula*) and Sneezewort (*Achillea ptarmica*). Those also grew near the mini-ponds, along with Broad-leaved Pondweed (*Potamogeton natans*), Bur-reed (*Sparganium erectum*) and Water Horsetail (*Equisetum fluviatile*) in the ponds.

The final centre of attraction was a large pond above the car park. Here we were fortunate for the time of year to see four Emerald Damselflies (*Lestes sponsa*) and a female Common Hawker Dragonfly (*Aeshna juncea*). Plants on the water's edge included Water Plantain (*Alisma plantago-aquatica*), Water mint (*Mentha aquatica*) and Glaucous Sweet-grass (*Glyceria declinata*).

This was a day with something for everyone and more besides, with that unexpected climb!

GRAHAM SWIFT

RED MOSS, BALERNO - LICHENS

Date
Leader

Saturday, 18th September
Brian Coppins

Most of our time during the excursion was spent examining the fine Beech Avenue (grid c. 36/164631; alt. 260-290 metres) that lines the road leading up to Bavelaw Castle. From the Beech trunks we found 27 species, and it was pleasing to re-find *Hypogymnia farinacea* (= *H. bitterania*), first (and last) recorded here in 1985 at this, its only known locality in southern Scotland. It is a UK 'nationally rare' species, mainly of old Pines in the Highlands. It was present, and in a healthy condition, on the west side of the avenue on two trees: (1) girth 148 cm, 8 thalli on SE side of trunk up to 2m; (2) girth 110 cm, 22 thalli on SE-E-NE side of trunk up to 2.5 m. Additional habitats in the avenue included the lignum of old stumps and areas of lichen-rich turf on the low roadside ridge between the trees. The turf supported six species of *Cladonia*, including *C. portentosa* (one of the 'reindeer lichens') and beautifully developed colonies of the slender *C. gracilis*, and also two leafy species of 'dog lichen' (*Peltigera*).

Our day ended with a brief walk through the birchwood alongside Red Moss (c. 36/163.636; alt. c. 260 m), examining the lichens on the birches, and the sandstone coping to the old aquaduct.

The list of species below is fairly complete for the Beech Avenue, but a detailed list was not made within the Birchwood.

BRIAN COPPINS

LIST of LICHEN for BEECH AVENUE, BALERNO

Key to list

B = *Betula* (Birch); Fg = *Fagus* (Beech); Fg-L = exposed lignum of wounded *Fagus* trunks;
L = lignum of old stumps; Sx = saxicolous, on sandstone coping of aquaduct
T = terricolous, on turf in avenue.

<i>Bryoria fuscescens</i>	Fg	<i>H. physodes</i>	B, Fg	<i>P. coccodes</i>	Fg
<i>Cetraria chlorophylla</i>	Fg	<i>H. tubulosa</i>	Fg	<i>Physcia tenella</i>	Fg
<i>Chaenotheca ferruginea</i>	B, Fg	<i>Lecanora conizaeoides</i>	Fg	<i>Placynthiella icmalea</i>	L
<i>Cladonia cervicornis</i>	T	<i>L. dispersa</i>	Fg-L	<i>Platismatia glauca</i>	Fg
<i>C. chlorophaea</i>	T	<i>L. expallens</i>	Fg	<i>Pseudevernia furfuracea</i>	Fg
<i>C. coniocraea</i>	B	<i>L. pulicaris</i>	Fg	<i>Psilolechia lucida</i>	B-r
<i>C. digitata</i>	L	<i>L. saligna</i>	Fg-L	<i>Trapelia placodioides</i>	Sx
<i>C. furcata</i>	T	<i>Mycoblastus sterilis</i>	Fg	<i>Trapeliopsis flexuosa</i>	L
<i>C. gracilis</i>	T	<i>Ochrolechia androgyna</i>	Fg	<i>T. gelatinosa</i>	L/T
<i>C. polydactyla</i>	L	<i>O. microstictoides</i>	Fg	<i>T. pseudogranulosa</i>	L/T
<i>C. portentosa</i>	T	(= <i>O. turneri</i> sens. lat.)		<i>Usnea filipendula</i>	Fg
<i>C. squamosa</i>	T	<i>Parmelia saxatilis</i>	Fg	<i>U. hirta</i>	Fg
<i>Evernia prunastri</i>	Fg	<i>P. sulcata</i>	Fg	<i>U. subfloridana</i>	Fg
<i>Hypocenomyce scalaris</i>	Fg	<i>Peltigera lactucifolia</i>	T	<i>Xanthoria parietina</i>	Fg-L
<i>Hypogymnia farinacea</i>	Fg	<i>P. membranacea</i>	T		
(= <i>H. bitterania</i>)		<i>Pertusaria amara</i>	Fg		

BROUGHTON CIRCUIT

Date Saturday, 25th September
Leaders George McDougall
and David Adamson

On a fine crisp morning a party of 19 members met in the main car park at Broughton. With some rearrangement of passengers, car numbers were reduced and a convoy set off for a drive of approximately 5 miles on the Dreva Road. This rises high above the line of the old railway, closed in 1950. The River Tweed was also seen below.

At the Altarstone Farm the cars were parked, our leaders having cleared this with the farmer beforehand.

This was really our starting point and we were taken to the Altarstone - a huge flat-topped block just beside the road. It seems that Merlin Silvestris ('of the Wood') lived in the second half of the sixth century and roamed the countryside. He met St. Kentigern, was converted to Christianity and baptised on the Altarstone. The following day at Drumelzier nearby Merlin met his strange threefold death which he had prophesied. He was stoned by shepherds as he walked by the Tweed, slipped down the bank, became impaled on fishing net stakes and was drowned.

As we went up to the entrance of the Altarstone Forest a Buzzard passed overhead, giving us a good look. The track had maturing forest to our left, and on the right Dawyck House and the Botanic Garden were below us. On such a lovely day we could see far up the valley. After about 2 miles we negotiated a five-barred gate where a further gate turned the track into

an enclosure. Here there was a young kid bleating in panic at our invasion. With the anxious mother goat in the main pen on our left, dogs barking on our right we made quite a stir! George hurried us through the gate into the Stobo Estate.

We found ourselves at the back of Stobo Castle. The Estate and Castle have a long history. I'll pick it up in 1767 when it was a confiscated property purchased by James Montgomery. He was then appointed as the Lord Chief Baron of the Exchequer. He was the first to grow turnips and the first to employ a two-horse plough in Peeblesshire. His son Sir James was responsible for the building of a redstone mansion, started in 1805 on the site of the old Hill House. Upon completion in 1811 with its battlements and turrets it received the name of Stobo Castle. After successive changes of ownership the Castle now functions as a Health Spa, where guests enjoy pampering and delicious food, but no rich sauces! We saw little activity - George reckoned that he should get 'danger money' having been inside on our behalf!

We were now on open grassland, crisscrossed by roadways, one of which took us to the Arboretum. The first tree was a Wellingtonia - *Sequoiadendron giganteum*.

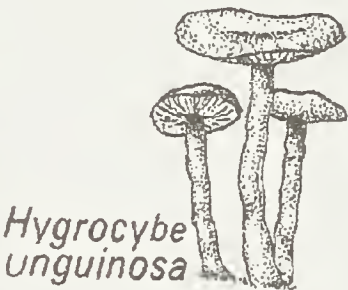
From here the path sloped down through different trees, some bearing labels. An old survey refers to water gardens and we came across them. A small lochan into which a 20 foot waterfall cascaded. We spent a little time here but lunch beckoned. On the way we found the dainty *Acer palmatum 'Dissectum'* It was quite overwhelmed by the large trees around it.

The lunch spot was a small parkland near the Weston Burn where we relaxed in the warm sunshine. Lunch over, we scrambled up to a higher path which took us to the head of the waterfall. Here there was quite a large loch with a hide on the east end.

We joined an uphill roadway which became more of a rough track. Some of the runners whom we had seen gathering in Broughton started to pass us. I noticed one with a Dundee club logo on his shirt. Three of our party went further uphill and the rest of us turned off at a small sawmill.

We retraced our steps via the five-barred gate where all was quiet. In the garden alongside we saw one Red Admiral. Further on we heard Jays screeching but were too late to see them. It was generally agreed that the grounds in the Estate were well maintained, with good sound paths and no sign of neglect anywhere.

Here and there we came across fungi. In looking over the list with my book (Roger Phillips) I see that one, *Hygrocybe unguinosa* is classed as RARE. Mary Clarkson has kindly given me a list; they were mainly found in the grounds of Stobo Castle.



We split up at the forest gate and thanked George and David for a great day. Getting in to Stobo Estate was much appreciated.

On driving back to Broughton the cars slowed up to check on a splash of colour noticed on the outward drive. It was a fine patch of Michaelmas Daisy at the side of the Dreva road; a real September note!

In Broughton we saw the last of the runners heading for the Brewery. Someone said that their run had been from brewery to brewery. They certainly looked in need of refreshment. We had a welcome tea or coffee from our flasks before heading for home.

DOROTHY STUART

FUNGI
FOUND FROM ALTARSTONE TO STOBO CASTLE

<i>Amanita citrina</i>	<i>Amanita rubescens</i>
<i>Daedalea quercina</i>	<i>Hygrocybe pratensis</i>
<i>Hygrocybe unguinosa</i>	<i>Hypholoma fasciculare</i>
<i>Inocybe geophylla</i>	<i>Lactarius blennius</i>
<i>Lactarius quietus</i>	<i>Mycena pura</i>
<i>Rickenella fibula</i>	<i>Russula cyanoxantha</i>
<i>Russula delicata</i>	<i>Russula fellea</i>
<i>Stereum hirsutum</i>	<i>Trichaptum abietinum</i>
<i>Tyromyces caesius</i>	

MC

TYNINGHAME

Date
Leader

Saturday, 9th October
Mary Clarkson

The Society has been to Tynninghame many times, the walks usually restricted to the very narrow coastal fringe north of the Tyne estuary that constitutes part of the John Muir Country Park. On this occasion we had a rare and welcome opportunity to explore part of the estate itself, following the paths due south of the Tynninghame car park and within a few hundred yards of the shore. According to Moray McLaren, Tynninghame estate is famous for its woods and holly hedges. Beech trees of all ages abound, with young Scots Pine on sandy soil. From Tynninghame House an avenue stretches half a mile to the sea, and the plantations resemble nearby Binning Wood in layout and in the occasional use of exotic trees such as *Nothofagus* sp. Apart from the fungi, which were widespread despite the dry conditions, we saw Jays, a Buzzard, Kestrels, an owl and a Great Spotted Woodpecker. Smaller fauna included Orange and 7-spot Ladybirds and a large garden spider. Near to an animal path a Badger had excavated two wasps nests. Both nests were exposed but occupied, perhaps repaired by the occupants. However, the outing was mainly about fungi and it is to these that we return.

Although nowhere were there large numbers of fungi, we did see a good variety of species, many of them interesting ones. From the car park we turned into a Beech avenue where the Porcelain fungus, *Oudemansiella mucida*, with its translucent slimy cap and ringed stem, had gained a foothold in areas where the trees had been damaged, sometimes high up on the trunk. On the ground below, we found the Beechwood sickener, *Russula mairei*, with its scarlet cap, pure white stem and gills and acrid taste, and *Russula fellea*, uniform yellow ochre in colour and smelling strongly of geraniums (or stewed apples to those with a different sense of smell). Nearby was *Lactarius blennius* with its slimy, concentrically zoned grey-green cap and very hot white milk which turns grey on exposure to the atmosphere. *Russula* and *Lactarius* are closely related genera whose flesh contains rounded cells which cause them to break easily and they grow in micorrhizal association with trees; this enables nutrients to be absorbed better from the soil by the tree roots which, in return, provide carbohydrates to the fungi. *Lactarius* are normally host specific while *Russulas* are slightly less fussy and some species may be found with a limited range of host trees. A few yards away, on the other side of the path, was a fine specimen of *Volvariella speciosa*, an unusual fungus with white cap and stem and pink gills and spores, whose generic name comes from the large bag-like volva surrounding the foot of the stem. It is found in rich soil and its function is to break down litter.

Towards Tynninghame House we found a number of *Boletes*, (whose spores are produced in tubes and

not on gills) growing with the mature, mostly Beech, trees lining the avenue, the Cep or Penny bun, *Boletus edulis*, the Red-cracking bolete, *Boletus chrysenteron*, whose cap cracks as it matures to reveal a red layer below, and the red-pored *Boletus erythropus* whose yellow flesh and tubes turn dramatically to dark blue when they are cut. All these are micorrhizal fungi. Farther on, in an area of younger trees, we were thrilled to find Earth Stars, *Geastrum triplex*, among the leaf litter. These uncommon fungi have two separate walls enclosing the spores, the outer one splitting at maturity like a star to reveal the inner 'puff-ball' which contains the spores.

A grove of Southern Hemisphere Beech trees contained a group of the very large fawn coloured *Melanoleuca grammopodia* and a number of Poison pie toadstools, *Hebeloma crustuliniforme*, with their distinctive smell of radish

The return route led us through young conifer plantations where the most interesting find was *Macrocyttidia cucumis* with its blackish velvety stem and red-brown cap with a pale edge. It is supposed to smell of cucumber but empty sardine tins is a better description!

Luckily for us, the forecast rain did not materialise and we were able to round off the foray by having a display of specimens grouped as far as possible by genus. Our thanks are due to Haddington Estates for giving us permission to foray in an interesting area to which we do not normally have access.

MARY CLARKSON

PENICUIK WOODS & BUSH ESTATE

Date Saturday, 23rd October
Leaders Dr Philip Mason &
 Dr Adrian Newton

The prospect of a foray led by two expert and well-known mycologists attracted a large number of forayers from as far afield as Dundee. The wind had dropped, the sun shone and a splendid day was had by all.

The morning was spent at Bush and Adrian Newton led. The party fanned out to the left of the car park where there were clumps of trees and bushes, a small pond with marshy borders and some grassy areas. Finds here included Wood Blewits (*Lepista nuda*), with their beautiful bluish-lilac caps growing in

groups amongst the trees, Orange peel fungus (*Aleuria aurantia*), on bare soil and looking exactly like its common name and, in the short grass near several of the clumps of trees, *Coprinus lagopus*, a small inkcap with white down on both cap and stem before the gills dissolve into an inky black liquid.

Moving round the edge of the open area, the route followed a tree-lined road with conifers to one side and broad-leaved trees to the other. Here, interesting finds included *Bulgaria inquinans*, looking like black rubber buttons clustered on a log, and, amongst leaf litter, troops of *Clavariadelphus junceus*. This is a small "Fairy club" only 6 or 8 cms high and about 1mm wide, not unlike a blade of grass, but yellow-brown in colour and rather rigid. Amongst the pines, testifying to the lateness of the season, was found Herald of the Winter, *Hygrophorus hypothejus*, with its slimy, olive-brown cap, yellow gills and equally slimy yellow stem. Some of the party made their way back to the car park for lunch across the lawns by Bush House and were rewarded by finding a good selection of grassland fungi, mostly Meadow waxcaps and Fairy clubs.

The afternoon venue was Penicuik Woods, a few miles away, and the leader was Philip Mason who gave an interesting introductory talk. Initially, the forayers covered the flat area near the ruined Penicuik House but soon moved to the top of the steep, wooded slope above the River North Esk and proceeded down a narrow path to the valley below. Under a log was discovered *Phlebia radiata*, a resupinate fungus of an amazing fluorescent orange colour with a radially wrinkled surface and found fairly frequently (if turning over logs is one's forte!). Near the foot of the steep path, on sandy soil among young trees were some Common earth-balls, *Scleroderma citrinum*. These are rounded, or flattened on top, dirty yellow in colour, coarsely scaly and attached to the ground by a few cord-like mycelial threads. The afternoon was well advanced and it was time to return to the cars. However, although the way down to the valley had been fairly easy, the return route was 'interesting' to say the least. Over a fence the party scrambled and steeply uphill in what had once been a beech avenue, through knee-high vegetation and finally over another fence to reach level ground at the top. Philip Mason rounded off proceedings with a helpful 'question and answer' session.

Our thanks are due to Sir John and Lady Clerk of Penicuik and the University of Edinburgh, the landowners, and to the two leaders for a great day's foraging.

MARY CLARKSON

A NEW RECORD ?

On 2nd September *Amanita sinico-fulva* found with Birch in Oak woodland near Buttermere in the Lake District. The fungus is like a smaller version of *A. vaginata*. The cap has greenish tinges and the inner surface of the volva is grey. Two specimens were found by different people on well-separated sites on separate days. The fungus is usually found in N. America. The specimens have been sent to the US for confirmation and, if confirmed, will be the first record of the fungus in Britain and perhaps in Europe.

Identified by Geoffrey Kibby. British Mycological Society International Foray. EMcAS



BOTANISTS 1928

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Drawn for us by Eric Perry.

ARNSIDE

14th - 18th June 1999

This year the NATS went south to Arnside on the Kent Estuary at the north end of Morecambe Bay. We had a glorious week of sunshine and it was an interesting botanical experience. Arnside is a delightful little village with lovely views over the estuary to the viaduct which carries the railway to Grange-over-Sands.

Most of us stayed in the Willowfield Hotel where we were given a great welcome and enjoyed a week of pampering. Others were in self-catering and B & Bs.

We thank Margaret Perry for her meticulous planning which meant that the week ran like clockwork and was such a success.

On the evening of our arrival at Arnside we were welcomed by Ken and Esme Kitchin, who are active members of the local Natural History Society. This informal and somewhat crowded gathering was held in the lounge of the Willowfield Hotel where many of the party were staying. Ken gave a general introduction to the natural history of the area, extolling its special features. Then Esme followed by illustrating these features with some excellent slides. We were especially pleased to be told about little ecological niches, outwith the Nature Reserves, where we might expect to find some rarities. There were, for example, 3 varieties of Orchid in a small triangle of grass beside a hostelry, and 3 varieties of Sea Lavender on the embankment of the viaduct running out to the Kent estuary. This most entertaining evening set the scene for the days of exploration ahead.

MARGARET PERRY

BOTS 1999 STYLE!





LEIGHTON MOSS and MORECAMBE BAY

The first morning at Arnside was spent at the RSPB Nature Reserve of Leighton Moss and Morecambe Bay. Leighton Moss comprises the largest area of reedbed in the North-west of England and is the last place in that area where many

of the now rare birds who depend on reedbeds are able to breed. These include Marsh Harriers, Bearded Tits and Bitterns.

The visit began with a talk by Jarrod Snaythe on the reed-bed management of the 134 hectare wetland. For many bird species, including Bitterns, the 20 to 40 metres of reedbed in from open water are the most important, the major part of their food being obtained from this zone. To produce more reed / open water interface, several new ponds and meres have been formed, helped further by dyke clearance. The new open water areas have been colonised by fish, especially eels, frogs and toads. The water level is controlled by embanking and by sluices, the latest of these incorporating an elver pass.

The party then dispersed, some to botanise and some to a pond to watch the beautiful Damselflies in the sunshine. There were found blue Damselflies, not settling long enough to be identified, the Large Red Damselfly (*Pyrhosoma nymphula*) and the Blue-tailed Damselfly (*Ischnura elegans*).

The bird-watchers had a successful morning, many seeing the male Marsh Harrier both flying and perching. Apparently this polygamous male was finding life very hard and his food drops to the females were missing their targets, the females then having to land to find the food. Those who went to the Bittern area heard the 'booming', described very accurately to us by Jarrod Snaythe as "the sound made when you blow across the top of a milk bottle". (Remember milk bottles?)

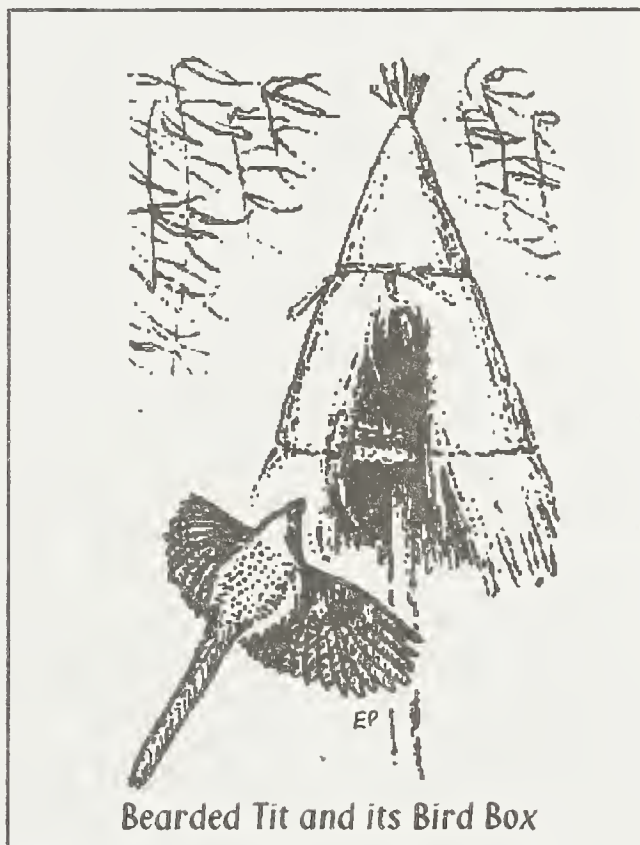
There were also a few members who were quiet, listening for the 'ping' of the Bearded Tits and who were rewarded with several sightings.

Since the Bearded Tits do not like wet reed-litter for nest building, several bird boxes have been made. But these are far from conventional: little, conical, thatched hats have been constructed on top of broom handles stuck into the reedbeds and these are stuffed with dry reed litter. The Bearded Tits fly in from underneath.

We all could have spent longer at this Reserve but the visit was a happy and successful beginning to the Arnside holiday.

I am very grateful to Liz Pilling and Joanie Fairlie for the following list of birds seen at Leighton Moss. They both know where to look and Joanie has the wonderful ability of recognising the songs and calls of the birds.

MARGARET WHITE



BIRD LIST

Great Crested Grebe
Grey Heron
Shoveler
Tufted Duck
Ruddy Duck
Moorhen
Herring Gull
Swallow
Dunnock
Blackbird
Bearded Tit

Cormorant
Shelduck
Pochard
Gadwall
Pheasant
Lapwing
Swift
Wren
Robin
Sedge Warbler
Long-tailed Tit

Marsh Tit
Rook
Starling
Chaffinch
Bullfinch
Bittern (heard)
Mute Swan + 6 young still in nest, then swimming
Greylag Geese + 3 young
Canada Goose + 2 young
Marsh Harrier - male and female
Blackheaded Gull + young - lots

Jackdaw
Crow
House Sparrow
Greenfinch
Reed Bunting
Teal (heard)

LIZ PILLING and JOANIE FAIRLIE

GAIT BARROWS

On the warm sunny afternoon the party visited Gait Barrows (OS Ref: SD 482773). The site is a pavement of carboniferous limestone approximately 300 million years old formed when the area was covered by a warm shallow sea. It is a very hard rock which over time flexed and formed fissures which became filled by a more recent limestone which came out of solution. Over a considerable time water acted on these softer rocks and other lines of weakness which were caused by several mountain building episodes when the earth's crust buckled and heaved. The result is a mosaic-like pavement of rock cut by grikes, the technical definition of which requires them to be twice as deep as wide. Many go down to 5 or 6 metres.

About 50 to 60 thousand years ago the area was on a glacial super-highway with ice coming from the central Cumbrian fells, North Pennines and even the Yorkshire Dales before heading south. This resulted in some deep scouring due to the tremendous hydrostatic forces under the ice. It is likely that after the ice retreated the area was rubble-strewn with few, if any, areas of exposed limestone. There then followed a period of windblown loess deposition. The debris and soil were gradually washed away to leave the area as we find it today - a large hump of limestone about 25 metres above sea level and surrounded by glacial tills supporting many woods.

However change continues, albeit at a very slow rate, i.e. loss of soil and consequent loss of some habitats. A 10-year series of photographic records showed that some trees were shorter in 1991 than they were in 1981. These dwarf trees result from a combination of several factors - limited root space in the grikes, lack of soil, but most of all drought stress. After rain the water either drains away quickly through the limestone or else evaporates. The net result is a lot of die-back and slow growth; e.g. a branch may take 20 years to grow 12 inches.

A more rapid and calamitous change took place in the early 1970s. Professor Donald Piggott in an effort to halt the extraction of limestone for garden use took the owner of Gait Barrows on a conducted tour of the area pointing out the fabulous limestone, amazing erratics and other features of geo-morphological interest and pointed out how important they were. Unfortunately the landowner, reasoning perversely that if these features were no longer there he would cease to be harassed by conservationists, blew them up the following day!

Despite the extraction and wilful damage, which thankfully has now ceased, a survey of all the limestone pavements in the UK over the past 20 years has put Gait Barrows high, if not on top of the list, for botanical interest. All those who roamed the pavement that afternoon would not disagree with that conclusion.

DONALD MANSON

PLANTS WE SAW at GAIT BARROWS

Angular Solomon's-seal	Polygonatum odoratum	Jointed Rush	Juncus articulatus
Betony	Stachys officinalis	Lily-of-the-valley	Convallaria majalis
Bird'sfoot Trefoil	Lotus corniculatus	Limestone Bedstraw	Galium sternerii
Biting Stonecrop	Sedum acre	Maidenhair Spleenwort	Asplenium trichomanes
Black Bryony	Tamus communis	Meadow Buttercup	Ranunculus acris
Bloody Crane'sbill	Geranium sanguineum	Mountain Melick	Melica nutans
Blue Moor Grass	Sesleria albicans	Orpine	Sedum telephium
Bracken	Pteridium aquilinum	Pale Sedge	Carex pallescens
Buckthorn	Rhamnus catharticus	Pale St John's Wort	Hypericum montanum
Common Figwort	Scrophularia nodosa	Pendulous Sedge	Carex pendula
Common Rockrose	Helianthemum	Ploughman's-spikenard	Inula conyza
	nummularium	Purple Moor Grass	Molinia caerulea
Dark Red Helleborine	Epipactis atrorubens	Quaking-grass	Briza media
Devil's-bit Scabious	Succisa pratensis	Raspberry	Rubus idaeus
Dropwort	Filipendula vulgaris	Rigid Buckler fern	Dryopteris submontana
Eyebright	Euphrasia officinalis	Rustyback	Ceterach officinarum
Fingered Sedge	Carex digitata	Slender St John's Wort	Hypericum pulchrum
Flea Sedge	Carex pulcaris	Spindle	Euonymus europaeus
Guelder-rose	Viburnum opulus	Spring Cinquefoil	Potentilla
Hard Shield-fern	Polystichum aculeatum		neumanniana
Hart's-tongue	Phyllitis scolopendrium	Stinking Hellebore	Helleborus foetidus
Heath Speedwell	Veronica officinalis	Tormentil	Potentilla erecta
Hedge Woundwort	Stachys sylvatica	Tutsan	Hypericum androsaemum
Hemp Agrimony	Eupatorium cannabinum	Wall-rue	Asplenium ruta-muraria
Herb Paris	Paris quadrifolia	Wild Strawberry	Fragaria vesca
Herb Robert	Geranium robertianum	Wood Aven	Geum urbanum
Holly	Ilex aquifolium	Wood Sage	Teucrium scorodonia
Jacob's Ladder	Polemonium caeruleum	Yellow Pimpernel	Lysimachia nemorum
		Zigzag Clover	Trifolium medium

WHITBARROW NNR

Wednesday was another day of sunshine for our outing to Whitbarrow NNR with Ian Wallace of Harrogate NATS.

Ian proved to be a most enthusiastic and knowledgeable leader and was obviously pleased to show us one of his favourite sites. The Hervey Memorial Reserve comprises a large enclosure on the top of Whitbarrow Scar which exhibits a variety of habitats and interesting geological features. The Scar is made up of carboniferous limestone which is exposed on the ridges running north to south with limestone pavements and small cliffs. Between these areas are hollows where wind-blown glacial material called 'loess' has been trapped and areas of limestone scree. Glacial erratics occur across the reserve in a variety of form and size from small stones to large boulders.

We set out across the fields with Swallows skimming around and a Buzzard soaring overhead. As the route took us through woods we heard Blackcap and Garden Warbler and the high pitched song of Goldcrest from conifers. Further up the steep path to the Scar we were able to stop for breath and compare two plants of Rockrose on the cliff. We found the Common Rockrose (*Helianthemum nummularium*) which is relatively common on base rich grassland throughout Britain and growing close by, the much rarer Hoary Rockrose (*Helianthemum oelandicum*) which looks shrubbier and has much smaller flowers and smaller greyish leaves.

Having reached the top we came upon a grassy area dominated by Blue Moor Grass (*Sesleria albicans*). In the grass grew plants such as Dropwort (*Filipendula vulgaris*), Lesser Meadow Rue (*Thalictrum minus*) and Limestone Bedstraw (*Galium sternerii*). Since grazing ceased in 1950 tree regeneration has been prolific, with Birch (*Betula pendula*), Ash (*Fraxinus excelsior*) and Juniper (*Juniperus communis*) doing well. Heather (*Calluna vulgaris*) and Bracken (*Pteridium aquilinum*) grow in the loess-filled hollows where the soil is deeper and more acid.

There were lovely views from the top but the strong wind forced us to seek the shelter of the stone boundary wall for lunch. Chiffchaff were singing and a Yellowhammer sat nearby calling for 'a little bit of bread and no cheese'.

After lunch we explored the limestone pavements. There we found some rare species including Rigid Buckler Fern (*Dryopteris submontana*), Limestone Polypody (*Gymnocarpium robertianum*) and Lancastrian Whitebeam (*Sorbus lancastris*). In some of the grykes we saw a more familiar plant - the Rue-leaved Saxifrage (*Saxifraga tridactylites*). Because of their situation the plants had grown quite large and straggly with green leaves. They looked very different from the tiny red ones at Aberlady. Skylarks sang as they rose and fell to the ground in parachuting flight.

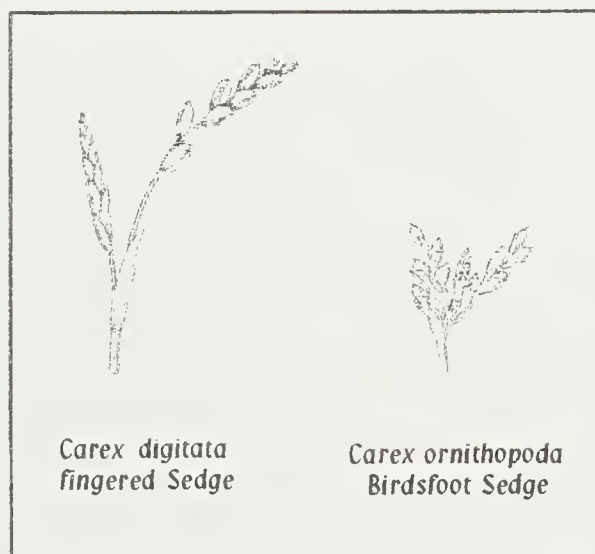
Tea break was spent by a small pond where a number of plants were added to the list. While most of the party headed back to the main path a small group, retracing their steps to look at an unknown 'sedge' (which turned out to be a *Luzula*!), came upon a number of plants of Moonwort (*Botrychium lunaria*) and a few yards away, a group of Adder's Tongue (*Ophioglossum vulgatum*). Both ferns were new records for the reserve.

Then at last gasp, just before we started downhill, there was the rare Sedge. Bird's Foot Sedge (*Carex ornithopoda*) was growing in a very thin layer of soil on the path! This little Sedge is closely related to the other rare one - Fingered Sedge (*Carex digitata*) which we had seen on the previous day at Gait Barrows. They can be distinguished from each other by the shape of the inflorescence.

We have to thank Ian Wallace for a lovely excursion. His friendly enthusiasm added greatly to our enjoyment of the day. In return we were able to give him some help with his recording: his existing plant list contained 178 entries of which we ticked 133 and added 52!

Unfortunately this was the best day for ticks of another kind with at least 5 being recorded!

LYN BLADES



WARTON CRAG

On Thursday 17th June, the fourth amazingly sunny day of our Cumbrian excursion, twenty of us gathered in the quarry carpark of Warton Crag Nature Reserve. The quarry face is huge and spectacular with Jackdaws flying high amid the upper reaches; a Raven was seen and the old nest-site of a Peregrine. Yews grow on the cliff face.

We were met by Ian Henderson, the Countryside Management Officer, who was to lead us around the Reserve. He told us that Chris Bonnington and other famous mountaineers used to come here before climbing was banned because of falling rock. Ian too is a mountaineer.

He gave us interesting information about Warton Crag which is a prominent limestone hill on the southern edge of the Arnsdale - Silverdale Area of Outstanding Natural Beauty (AONB). Ian manages 30 square miles of this exceptionally beautiful, nationally significant landscape of low limestone hills, crags and pavements, deciduous woodlands and pastures. Warton Crag is one of the most important reserves in the area, being designated as an SSSI in recognition of its rich flora and fauna.

Ian spoke of his management priorities: "We must get the habitats right for the species we want to protect" e.g. the Northern Brown Argus and High Brown Fritillary Butterflies, Adder's Tongue and Moonwort ferns, Fly Orchid and the Dark Red Helleborine. We must do something, not nothing." To this end, they arrange for the scrub to be cut back; sheep and cattle brought in to do some work for them by grazing; coppicing undertaken to encourage regeneration in the woodlands. The bracken is cut back only every six years because if it is cut too often there would be too much grass. Sheltered under the bracken, huge numbers of violets grow; because they are the food plant of the High Brown Fritillary, they must be protected. The bracken litter is left in place because on it each female lays her 300 eggs.

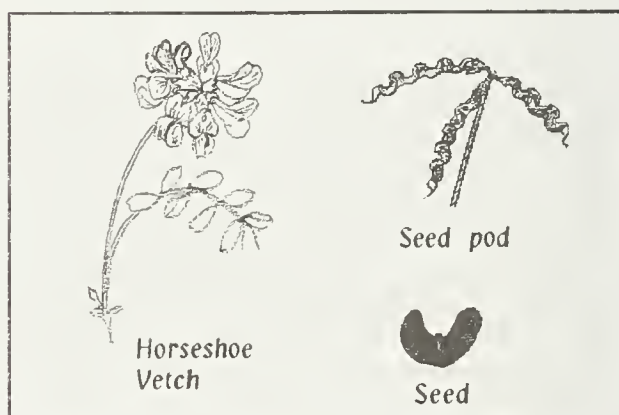
Near the car park, we found Hoary Plantain (*Plantago media*) and Salad Burnet (*Sanquisorba minor ssp. minor*), Meadow Cranesbill (*Geranium pratense*) and Quaking Grass (*Briza media*) in flower and the leaves of Marjoram (*Origanum vulgare*) amid dying heads of Blue Moor Grass (*Sesleria albicans*). Ian explained that these plants thrived in this very thin nitrogen-free soil where there is lack of competition. That is why so many species of plant are found here.

Ian led us through woodland where we saw Sanicle (*Sanicula europea*) and Lords and Ladies (*Arum maculata*). We heard many Chiffchaffs, a Blackcap, a Garden Warbler and a Nuthatch. Ian pointed out Spindle (*Euonymus europaeus*) and Buckthorn (*Rhamnus catharticus*), two unusual shrubs that he is trying to protect.



Dark Red
Helleborine

The less agile of us went by the easier route to the limestone pavements, while the rest climbed like gazelles to see the Dark Red Helleborines (*Epipactis atrorubens*), of which there are now over 500 plants on the Reserve. Amid the fissures ('grikes') and blocks ('clints') and grass of the limestone pavements, we found Kidney Vetch (*Anthyllis vulneraria*); Common Rock-rose (*Helianthemum nummularium*) and the smaller Hoary Rock-rose (*H. oelandicum*); Red (and white) Valerian (*Centranthus ruber*); Oxeye Daisy (*Leucanthemum vulgare*) in profusion; Herb Robert (*Geranium robertianum*), smaller than usual here on the thin soil; Limestone Bedstraw (*Galium sternerii*); Tormentil (*Potentilla erecta*); Horseshoe Vetch (*Hippocrepis comosa*) with its curly fruits; the white flowers of tiny Fairy Flax (*Linum catharticum*) and beautiful Spring Sandwort (*Minuartia verna*). There also were two unusual ferns growing in the grikes: Rigid Buckler Fern (*Dryopteris submontana*) and Limestone Fern (*Gymnocarpium robertianum*) as well as the more common Wall-rue (*Asplenium ruta-muraria*) and Maidenhair Spleenwort (*A. trichomanes*).



Horseshoe
Vetch

Seed pod

Seed

The panoramic views were marvellous. In the far distance we could see Ingleborough's flat square top with its millstone grit cap; Carnforth; Morecambe; Heysham; Lancaster and the Ash Memorial; the Bowland Hills spread before us; and a steam train puffing through below. We heard and saw a Jay fly into nearby trees with its screech, like tearing silk.

We descended to a bracken-covered meadow. Two stalwarts swung between them a frail but intrepid older member of our group, a keen botanist, who flew with their sure-footed help over difficult terrain of broken fissured blocks of limestone. Unscathed, she later joyfully discovered the deep pink flowers of Sweet Briar (*Rosa rubiginosa*).

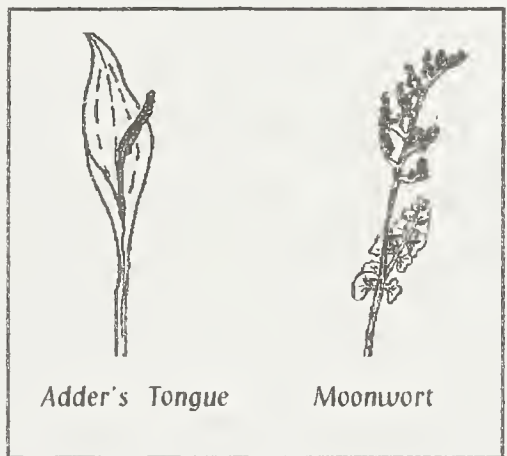
Two Buzzards soared above and a Blackcap sang. We saw Butterflies: Speckled Wood, Common Blue (they also have Holly Blue on this Reserve), a Northern Brown Argus and a Pearl Bordered Fritillary. Ian told us that the latter's numbers have crashed this year due to bad weather, an uncontrollable hazard in conservation. Amid the bracken, we searched in vain for Moonwort which must now have finished, but we found a big colony of Adder's Tongue. We heard the liquid descending notes of Willow Warblers and caught sight of a black Chimney Sweep Moth.

Full of delight in the wealth of unusual flora and fauna we had seen, we made our way back to the car park, hearing both a Blackcap and the more throaty Garden Warbler singing as we descended.

We thanked Ian Henderson for showing us this species-rich Reserve. We are all grateful to Margaret Perry for arranging all aspects of our visit so efficiently and carefully.

We sat on the grass and ate our lunch in the sun.

MARY TEBBLE



Further Finds at Gait Barrows

As well as many plants there were some interesting creatures living on and around the limestone pavements of Gait Barrows. The local expert, Rob Petley-Jones after hunting for some time, produced a minute snail with a sinistral (i.e anti-clockwise) shell. This was the very rare *VERTIGO ANGUSTIOR* which is found mainly in Central Europe and has only two or three known sites in the British Isles. We also saw a Wood Ant's nest and were told that the Wood Ant *FORMICA RUFA* often entertains two guests in its nest. One is a small ant *FORMICOXENUS NITIDULUS* which is only found in the nest of the Wood Ant, where it lives safe from predators and probably gets food from the host workers by regurgitation. Males are wingless but after mating some females fly away to look for other nests. The second guest is the beetle *CLYTRA QUADRIPUNCTATA* which has the strange habit of covering its eggs in a capsule of its own faeces. They are then dropped singly on to the Wood Ant's nest and picked up by the ants. Their superficial resemblance to nest material could account for this. Once hatched, the larvae build themselves a better protective case from excrement and debris and live unmolested in the Ant galleries. Some beetles' larvae do eat the Ant brood, but *CLYTRA QUADRIPUNCTATA* lives only on scraps found in the nest.

OBSERVATIONS

1999



JANUARY

2/1/99	Green-Winged Teal, Baron's Haugh. Female Smew, Baron's Haugh.	BC
9/1/99	Colonies of Winter Stalk Puffball (<i>Tulostoma brumale</i>) found again near Yellowcraig following the article by V. Fleming in the Fungus Group of SE Scotland Newsletter about colonies found there by him in 1998.	JM & MC
10/1/99	3 Long-eared Owls, Musselburgh.	BC
11/1/99	Coal Tit singing loudly and then eating peanuts.	DC
26/1/99	2 female Shoveler feeding at Duddingston Loch. 6 male Bullfinch together on Hawthorn at Bawsinch Reserve.	CR CR

FEBRUARY

2/2/99	Male and female Blackcaps feeding from birdtable.	DC
6/2/99	Surf Scoters, Largo Bay.	BC
7/2/99	Little gull (immature), Belhaven Bay.	BC
14/2/99	Golden Saxifrage (<i>Chrysosplenium oppositifolium</i>) in bloom in Tillicoultry Glen.	MC
18/2/99	1 Dipper male, singing perched on a mid-stream stone on the Water of Leith, Stockbridge.	CR
19/2/99	A Goldfinch on the nuts.	DC
23/2/99	Wren hopping round outside of greenhouse; no song yet. Dead Mute Swan, Bawsinch Reserve. Presumably killed and eaten (completely) by foxes. Ring HZT.	DC CR
24/2/99	Watched 4 Bullfinches feeding on Gean in flower at Linlithgow Loch. MR + (RSPB Group) Flock of about 100 Golden Plovers on shore at Blackness. A hare ran over a winter barley field.	MR

MARCH

14/3/99	Golden Plover on the hills above Glen Sax, Peebles.	MC
20/3/99	A Large patch of Purple Toothwort (<i>Lathraea clandestina</i>); two Dippers by the River Tyne at East Linton.	EMcAS
25/3/99	Peregrine flying westward at Comely Bank.	CR
26/3/99	Goldfinch on Teasel at Bawsinch Reserve.	CR
30/3/99	Queen Wasp and Tortoiseshell Butterfly in garden - NT 216746.	MR

APRIL

1/4/99	Pair of Bullfinches sitting on the branches of Rowan tree, pecking at the buds.	DC
1/4/99	Two Tortoiseshell Butterflies flying together and remaining in the garden all afternoon.	DC
3/4/99	3 male Chiffchaff singing at Bawsinch Reserve.	CR
	Pair of Great-Crested Grebe on nest; copulation took place. Duddingston Loch.	CR
6/4/99	A pair of Great Tits arrived and were tapping on and off all day inside the box.	DC
10/4/99	Pair of Canada Geese nesting; Duddingston Loch.	CR
12/4/99	Great Tit (male) calling his mate <u>at and around</u> the nest box fixed on the garage wall for 2½ hours with different calls - alarm, coaxing, quiet ti, ti, ti, ti sound. At last she came out and they both went into the box again, then out bringing nest material (straw).	DC
14/4/99	Large number of the fungus <i>Mitrophora semilibera</i> ; 33 counted in the grassy rectangle at Morningside station.	EF
20/4/99	16 heads of the same fungus on the disused railway line at Ravelston.	EF
21/4/99	Chiffchaff heard at Luffness, Aberlady.	MR
22/4/99	A few more of the fungus <i>Mitrophora semilibera</i> again, in the Hermitage of Braid.	EF
23/4/99	Blackcap and Willow Warbler have returned to Bawsinch Reserve.	CR
24/4/99	First Swallow at Hopetoun House, West Lothian. Raven, Loganlea.	MR BC
25/4/99	Swallows, Chiffchaff and Common Sandpiper at Kindrogan Field Centre. Dead male Badger weighing 22lbs on the A68 on Soutra at NT 477574. The skull had been badly damaged. The front feet and the tail had been removed.	MC JL, EF

Other badger road deaths reported during the year are as follows:

- April On the A914 near the sliproad to Motorola.
On the A697 near Greenlaw at NT696461.
May On the B6368 near Woodcote Park at NT 455605.
On the A68 on Soutra at NT 465595.



- 27/4/99 Sedge Warbler returned to Bawsinch Reserve. CR
Orange-tip Butterfly. CR
A Woodpigeon settled on Duddingston Loch, floated, bathed vigorously and then flew away. CR
29/4/99 a.m. Green Woodpecker in Hermitage of Braid ;
p.m. Great Spotted Woodpecker at Newhall, Carlops. MC
Orange Tip Butterfly in garden. (Davidson's Mains.) EMcAS
30/4/99 Bumble Bee released from being trapped in the socket of a laundry whirly-gig.
Davidson's Mains. EMcAS

MAY

- 3/5/99 First Swallow seen at Bawsinch. CR
7/5/99 Fringe Cups (*Tellima grandiflora*) in Lauriston Castle grounds, Davidson's Mains. MR
Male Garganey, Musselburgh. BC
Wood Sandpiper, Musselburgh. BC
9/5/99 3 Common Sandpipers and 5 Swifts and a Sand Martin at Duddingston Loch. CR
10/5/99 Black Kite, St.Abbs.
Wryneck, St.Abbs. BC
11/5/99 Marsh Harrier, Aberlady.
Female King Eider, Aberlady. BC
18/5/99 Peacock Butterfly at Bawsinch. CR
19/5/99 Blue Tits were putting straw into their box at the top of garden when they suddenly
stopped and we did not see them again. After a week we looked inside the deserted
box and discovered a wasp's "bike" about 2.5 inches in diameter. DC
29/5/99 Two Spotted Flycatchers at Hopetoun House parkland but they moved on. MR
30/5/99 First appearance of Ragged Robin (*Lychnis flos-cuculi*) in back garden.
Davidson's Mains. EMcAS
31/5/99 Male Orange-tip Butterfly in Blackhall garden and Angle Shades Moth on window. MR

JUNE

- 1/6/99 At teatime the Great Tits flew from their nest box. It was a lovely warm, calm day. DC
10/6/99 Sanicle (*Sanicula europea*) Davidson's Mains Park. EMcAS
16/6/99 Green Woodpecker in garden where there are several ants' nests MR
24/6/99 Red-eared Terrapin resting on disused nest of Great-crested Grebe, Duddingston Loch. CR
25/6/99 A clump of the brightly coloured fungus *Psathyrella pyrotricha*, beside the woodland path
above the River Esk near Inveresk Cemetery. EF

JULY

- 8/7/99 Green Woodpecker heard regularly for several days and eventually seen flying.
Davidson's Mains. EMcAS
11/7/99 A warm sunny day at the former Barony Hotel in Eddleston (now an ambulance depot
and conference centre). There were young Spotted Flycatchers all over the place. They
sat upright on a fence, flew up to catch flies and back to the place they had left, moving
very fast. DC
17/7/99 Several Yellowstaining *Agaricus xanthoderma* near Inveresk Cemetery. The yellow
staining is almost immediate when the fungus is handled, but fades soon after. EF
18/7/99 4 *Conocybe lactea* with their distinctively shaped caps which have been likened to
thimbles, beside the wall outside Abercorn Cemetery. EF
Red-Legged Partridge (*Alectoris rufa*) on a wall by the road-side, between Gifford and
Pencaitland. EMcAS
19/7/99 A very small Inkcap, *Coprinus freisei*, growing on dead grass, close to Roslin Cemetery. EF
28/7/99 Lesser Yellowlegs, Monikie Country Park. BC

AUGUST

- 3/8/99 Scalloped Oak Moth on window and a Lackey Moth on door - NT 216746. MR
23/8/99 Great Spotted Woodpecker, Davidson's Mains Park. EMcAS

28/8/99	Greenish Warbler, St.Abbs.	BC
31/8/99	Dozens of young Swallows circling and squeaking high in the air beneath misty clouds. 7.40pm - Great Tit flew in with a great deal of excited chatter and on to the wall where his box had been during the summer, so we replaced it and the female is using it to roost.	DC

SEPTEMBER

4/9/99	<u>Amanita punctata</u> . Provisionally identified by Prof. Roy Watling. NATS outing to The Hirsell.	EMcAS
5/9/99	Flock of 20-30 Long-tailed Tits in garden trees - NT 216746.	MR
10/9/99	Robin returned with his lovely Autumn song especially at dusk from the Rowan tree. Blackbirds - a family of 6 in the garden early in the day.	DC
14/9/99	Common Darter Dragonfly (<u>Sympetrum striolatum</u>) at Gunn Pond, Bawsinch.	CR
15/9/99	Red Admirals on chrysanthemums.	DC
17/9/99	En route for Sgairneach Mhor (Drumochter) - 5 Clubmosses - Fir, Lesser, Stagshorn, Interrupted and Alpine (<u>Huperzia selago</u> , <u>Selaginella selaginoides</u> , <u>Lycopodium clavatum</u> , <u>Lycopodium annotinum</u> and <u>Diphasiastrum alpinum</u>).	MC, SS
22/9/99	Young Robin on the lawn. Male Blackbird now chases the young ones especially when they go near his 'patch'.	DC
24/9/99	A young Dabchick being fed by an adult at Blackford Pond.	MC
25/9/99	Spotted Redshank, Musselburgh.	BC
26/9/99	At 04.30, the first Geese were heard, flying overhead, NW Edinburgh	MR
27/9/99	Last 2 Swallows seen at Manderston, near Duns.	MR

OCTOBER

9/10/99	Geese flying and wheeling in the air , shape changing every few minutes. They are flying towards West Linton. Three skeins fly south-west at 4pm.	DC
10/10/99	<u>Amanita formosa</u> on a very steep-sided west-facing slope. This substantial fungus resembles <u>A. muscaria</u> but has orange tones throughout and this particular specimen had deep red colouration with a darkening hint of blue. Ravelston Quarry. Identified by E. Farquharson.	EMcAS
10/10/99	A single Swallow seen flying around North End , Hopetoun House. A warm, sunny day with lots of midges.	MR
16/10/99	Slavonian Grebe in winter plumage, Duddingston Loch.	CR
17/10/99	In the back garden several birds were attracted by an upturned dustbin lid filled with water. They were all quite close to each other in full view of the house as they waited their turn to enjoy the bath. The `greeting card' selection included at least one each of Blackbird, Robin, Hedge Sparrow, Chaffinch, Blue Tit and Coal Tit. A few yards away a Wood Pigeon pecked in the grass and a Tree Creeper made its way around a tree. Davidson's Mains.	EMcAS
22/10/99	Red-flanked Bluetail, St. Abbs. In late afternoon, a large number of 2-spot Ladybirds (<u>Adalia bipunctata</u>) noted on the trunks of young Sycamores on the Meadows (Townwomen's Guild Walk). They were mainly on the sunny side of the trees and seemed to be looking for cracks to hibernate in. There were more than 20 on some trees, perhaps 200 altogether, pretty equally divided between 2 forms - red with 2 black spots and black with 4 red splotches. The reason I was attracted to the trees was the sight of spider threads glistening in the sun. Presumably they had been ballooning. (See Page 18)	BC
23/10/99	Pallas's Warbler and Yellow-browed Warbler, Deanburn Wood, Crail.	JM
25/10/99	Pallid Swift (2nd for Scotland), Burnmouth. Isabelline Shrike, Burnmouth.	BC
27/10/99	Liberty Cap fungi (<u>Psilocybe semilancelata</u>) on lawn - NT 216746.	BC



NOVEMBER

2/11/99	Female Pheasant wandering through the garden. Davidson's Mains .	EMcAS
4/11/99	A Robin singing followed by a Wren - loud and clear full song. <u>Volvariella speciosa</u> on the disused railway line at Ravelston; also seen in early December on the walkway behind Warriston Cemetery.	DC
20/11/99	2 Great Skua at Yellowcraigs.	EF
21/11/99	35 Waxwings at Aberlady.	BC
22/11/99	At Beecraigs, <u>Paurocotylis pila</u> , a fungus from New Zealand, as yet uncommon in the Lothians. It has been recorded twice previously from Beecraigs, and once from a Corstorphine garden.	BC
		EF

DECEMBER

30/12/99

On the Meadows with time on my hands, I decided to look at the trees on Townswomen's Guild Walk where I had seen the 2-spot ladybirds in October. I was delighted to find 30 or so hibernating in deep cracks on 5 of the trees. Presumably the rest had found a better hole - perhaps higher up in the trees.

JM

Throughout the year, Buzzards have been seen regularly at Hopetoun, where rabbits are plentiful. The birds perch on trees in the North Deer Park, on gate posts in the Plains Field, east of the house and even in the walled garden.

MR

There have been about 12 sightings of Otter (1 or sometimes 2) on Duddingston Loch. My one and only was a brief view on 3rd August, 1999.

CR

Key to names

BC	Bill Clunie	DC	Doris Crichton
MC	Mary Clarkson	EF	Elizabeth Farquharson
JL	Jean Long	JM	Jackie Muscott
CR	Charles Rawcliffe	MR	Mary Robertson
EMcAS	Eunice Smith	CS	Connie Stewart
SS	Sandra Stewart		

YOUNG ROBINS

During the "Nats" visit to Craigton Quarry and the Union Canal on August 7, a small group of us had an amazingly close encounter with a teenage Robin (*Erithacus rubecula*). It was loafing around in some scrub fairly close to the path, and made no attempt to retreat when we approached, but hopped towards us, apparently for a better look. (Isn't it infuriating that one never has one's camera on these occasions.) We thought it might be hungry and offered it some crumbs, but it didn't seem interested; in fact it gave the distinct impression of simply being curious.

Almost exactly the same thing happened a few days later in Roslin Glen, when Mary Tebble and I were scrambling through scrub to look at some Travellers Joy (*Clematis vitalba*). Again we encountered a young Robin and again it showed no fear, but approached very close and quite definitely gave us the once-over.

Both these birds were just growing their first red breasts, and still had a few speckled feathers showing. Both seemed completely undaunted by our size, and one hopes that neither has subsequently met up with anything more dangerous than a passing botanist. I suppose a degree of bravado is common in young adults, especially creatures as aggressive as Robins, but I've always had a sneaking feeling that these little birds think they're still dinosaurs.

JACKIE MUSCOTT



PS - A couple of months later a short walk in Blackford Glen was enlivened by Robins singing to each other, it seemed from every second bush. One of the few birds to sing in winter (even at night in the city), they were presumably busy establishing their winter territories. JM

BUTTERFLIES and MARS BARS - a funny mixture!

Before showing our visitors from Gloucestershire round Dirleton Castle, on 24th September, we watched a Comma Butterfly (*Polygonia c-album*) in the long herbaceous border. It settled very conveniently on Michaelmas Diasies just beside the path, so we all had excellent views.

I have never before seen a Comma in Scotland, though I am familiar with them in the South of England. My copy of George Thomson's *Butterflies of Scotland* (Publ. 1980) mentions the Comma only among the 'recently extinct' species; is it recolonising here?

MR WATSON

Not long after receiving Margaret's observation we read in *Lothian Wildlife* that David Hutchins had come across four individuals feeding on Devil's-bit Scabious at Gore Glen, Midlothian on the 10th of September, while he was carrying out his search for beetles. It has not been seen in Scotland since 1810! Let's hope that they turn up in next year's Journal Observations. Eyes peeled!

When the Comma is at rest it looks like a bit of dead leaf, with a distinctive white mark on its hind wing which gives it its name.

THE COMMA BUTTERFLY



A RECIPE FOR DEAD MARS BARS!

(You know the ones---salvaged after weeks at the foot of your rucksack.....)

From Alison Wilson, who says:

Glad I joined the NATS: I have enjoyed all the occasions I've managed to join you. On the coastal day I said half-jokingly to someone that my contribution to the Journal would be a recipe for using up my 'dead Mars bars'. Here it is!

ALISON'S REVENGE or ICED CARAMEL MOUSSE

3 x 65 gm	Mars Bars salvaged after weeks at the foot of rucksack
15ml (1 tbsp)	Milk
1	Egg white
284 ml (10fl.oz.)	Carton double cream
	Chocolate curls to decorate

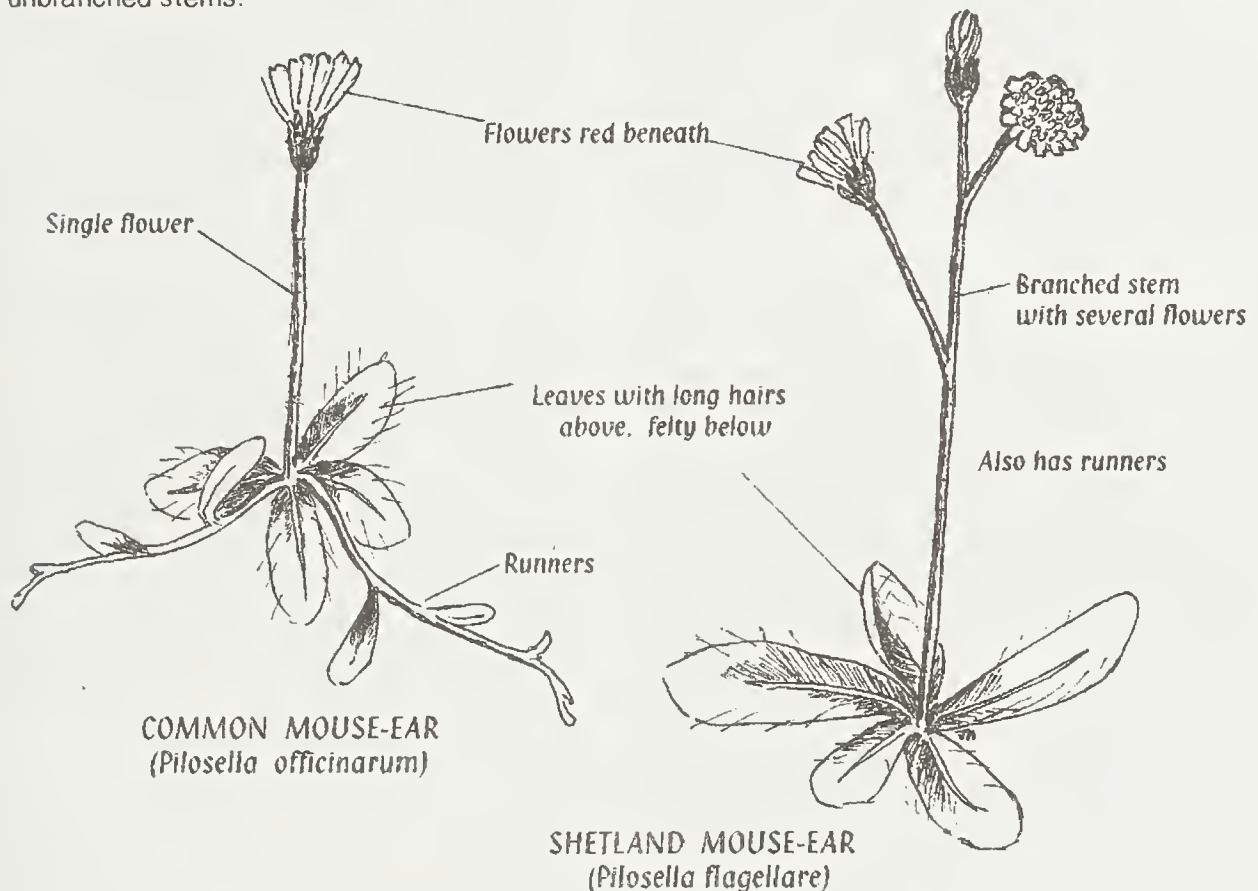
1. Thinly slice Mars bars. Place in a bowl with the milk and gently heat over a pan of simmering water, stirring occasionally until melted and almost smooth. Cool for about 10 minutes, stirring occasionally.
2. Whisk the cream until it just holds its shape (under rather than over), then gently stir a large spoonful into the caramel mixture. Fold in remaining cream with a large metal spoon.
3. Lightly whisk the egg white, fold into caramel mixture. Pour into a bowl, cover and freeze (or refrigerate) for 2-3 hours.
4. Before serving, decorate with chocolate curls (and/or icing sugar).

ENJOY!

HAWKWEEDS and FUNGI

Hawkweeds frequently grow on bings and it was pleasing to find two recognisable species growing in close proximity on Foulshiels bing. The native Mouse-ear Hawkweed (*Pilosella officinarum*) is a common plant of short, dry turf. It's patch-forming, spreading by runners, with oval leaves which are grey felty beneath and have long white hairs above, and with yellow Dandelion-like flowers held singly on unbranched stems.

The Shetland Mouse-ear Hawkweed (*Pilosella flagellare*) seems to be becoming increasingly widespread. It's an introduced plant (apart from a rare subspecies found only in Shetland), very similar, but with branched flower stems usually bearing two or three flowers. It is usually a bit taller with somewhat larger leaves too.



CONFUSION!

On 30th June in Thornthwaite forest near Keswick in the Lake District it appeared that a specimen of the Birch Polypore *Piptoporus betulinus* was growing on a very mature Oak. The collection of the specimen and samples of tree bark, tissue and leaves posed a major problem as the tree was very rotten and over-hanging a gorge - and the finder was far outwith the hearing of others! On return to base the database was searched for equivalent records without much success. There did not appear to be any valid record of *P. betulinus* occurring on Oak. Details of *P. quercinus* were also researched and discounted. A return visit to the site attended by the Ranger was organised and resulted in what appears to be the only logical solution (on the available evidence) to the fungal mystery. Many years before (about 50?) a Birch tree seeded in the rotting base of a mature Oak. The Birch tree matured and eventually began to rot. Several feet up from the base on the outward sloping trunk of the old Birch an acorn then found a suitable germination spot and grew into a young Oak (about 5 years ago?). This gave the appearance of it being a branch of the main tree. The Birch which was growing on the old Oak was thus producing a fruiting body of *P. betulinus* at the same time as supporting the growth of a young Oak!

(BRITISH MYCOLOGICAL SOCIETY INTERNATIONAL FORAY) EMAS

WINTER MEETINGS 1999



Wednesday, 27th JANUARY

Biodiversity and Scotland's Fish Peter Maitland

The first lecture of 1999 directed our attention to a group that is perhaps unfairly neglected by most of us. Peter Maitland - who began his career as an ichthyologist at the Pitlochry Freshwater Fisheries Laboratory in the 1950s and is now an independent researcher - spoke to the Society about Biodiversity and Scotland's Fish. Strictly marine fish were not considered, but even so Scotland boasts about forty species found in our various non-marine habitats - natural lochs, reservoirs, burns, rivers and estuaries.

A mere 10,000 or so years ago Scotland was completely covered in ice, as was most of the British Isles, and the only freshwater fish were (presumably) in the south of England. All our fish have arrived since then - but how? The obvious source for the three members of the Salmon family: the Atlantic Salmon, the Sea and Brown Trout (one species despite their obvious differences) and the Arctic Char is the sea. The Sea Trout and Salmon are still migratory, but the habit has been lost by the Arctic Char, which is now landlocked and diversified into different forms. Other species derived from the sea are the three Lampreys (River, Brook and Sea), the Eel and the Three-spined Stickleback - which is found in rivers, estuaries and the open sea. In Loch Lomond is found the Flounder, and one of only two natural populations of the Powan. The Vendace is already extinct here.

Estuarine fish include three species of Mullet, two species of Shad, and the Smelt, which remains in only the Forth, Tay and Cree estuaries. The most exotic of all must be the Atlantic Sturgeon. It used to be common around our coasts, but is possibly now the most endangered of European fish.

Other species are unlikely to have reached Scotland from the sea. So, how did they arrive?

Waterspouts can be taken seriously as a mode of fish dispersal in some parts of the world, but probably not in Scotland. Transport on waterbirds' feet, as eggs attached to weed, is certainly possible, and may account for our Pike, Perch and Roach. In wet conditions, for example, it is possible for a small fish to swim between the headwaters of the Clyde and Annan near Beattock. This might have provided a route north from England for such species as the Minnow, Stone Loach ('Beardy' in Scotland), and Bullhead.

Finally there is of course introduction by humans, especially for angling. Many species come under this heading, including Rudd, Grayling, Bream,

Chubb, Tench, Rainbow Trout, Brook Char and Ruffe. Are these introduced fish part of our Scottish biodiversity? If they are, are they to be welcomed? On this score Peter Maitland had a couple of cautionary tales. Five introductions have been recorded from Loch Lomond including the Ruffe. In 1982 seventeen Ruffe were recorded for the first time; in 1995 the number was 13-14,000! So far none of the fifteen native species in the loch have been lost, but it might be only a matter of time before there are irrevocable changes in the loch's ecosystem. The North American Signal Crayfish, a voracious feeder, is now established in Galloway streams. What will happen? Unfortunately there is no effective legislation to prevent this kind of introduction. It is not only from the introductions that change can be expected in Scotland's piscine biodiversity. Considering that many of our fish are of northern origin, global warming can be expected to make life difficult for them. This could happen through immediate physiological causes: salmonids, for instance, are unusually sensitive to water temperature. Alternatively new species could invade from the south and compete successfully against our native species as water bodies warm up.

GH

Wednesday, 24th FEBRUARY

The Breeding Birds of South-east Scotland Harry Dott

'The Breeding Birds of South-east Scotland' is the title of a tetrad atlas published in 1998 by the Scottish Ornithologists' Club, the authors being R.D. Murray, M. Hollins, H.E.M. Dott and P. Vandome. The 7000 square kilometres of the Lothians and Borders comprise 1,756 tetrads (squares of side 2 km) and each one was checked for each of the 168 species covered in the book. Two hundred and fifty volunteers, amateur naturalists highly skilled in identification and recording observations took part, with a relatively small number of professionals. 91,000 records were collected, mapped and analysed. UK naturalists are world leaders in producing detailed surveys, and this *South-east Scotland Atlas* is a magnificent continuation of that tradition.

The survey was carried out over seven years (1988-94), and one day was devoted to observing not birds but landscapes. A plane was hired, and a fascinating part of the talk was the series of aerial photographs of all the major habitat types in the Lothians and Borders, including many familiar landmarks as they

might be seen by a migrant returning from the south in spring. The rest of the lecture was devoted to explaining the maps. For each species there is a double-page spread, with text and an attractive drawing on the left, and maps and diagrams on the right. The main map shows presence as a breeding species at four different levels of certainty, and in the corners are reproduced the less detailed 10-km square BTO map of 1968-72 and the new map (1988-94) converted to the same format. This makes comparison easy.

For many species there are also diagrams analysing the species' altitude and habitat preferences, and sometimes other data are presented. Harry selected a few species to illustrate the kinds of changes in the two decades preceding this survey. Regrettably some are in decline - for instance tree sparrow and corn bunting - but a surprising number are clearly increasing, such as Mandarin Duck, Goosander, Magpie, Buzzard and Siskin. There are many other more subtle changes occurring, but these often do not show up in a comparison of the relatively crude 10-km squares.

One of the great merits of the new South-east Scotland Atlas is that it is so detailed. Its true value will emerge in years to come - say, after another two or more decades - when hopefully the survey will be repeated at the same tetrad scale. Then there will be a renewed demand for the book. GH

Wednesday, 25th MARCH

Nature in Close Up: Insects Sandy Clelland

We are used to a high quality of 'visuals' at our audio-visual lectures, but Sandy Clelland gave us something out of the ordinary for his talk on 'nature in close up'. He is a Scottish Agricultural College agronomist, but another of his hats is that of keen and accomplished wild life photographer. The film used is Fuji Sensia 100, and lenses are mostly 50 or 80 mm, with two or three flashes to supplement natural daylight. To focus a shot, the camera is adjusted for the correct distance, and then Sandy rocks back and forth to check focus through the viewfinder before clicking the shutter. Sometimes he uses a wide-angle lens - particularly in flower portraits, where he wants to show something of the subject's immediate habitat. The restricted depth of focus in close-up work may be a problem, but can also be used to advantage, for instance to 'isolate' the subject from its foreground and background; the depth of focus can be reduced by using a wide aperture - but then accurate focussing is critical. We were treated to a wide range of natural history in close-up, beginning with flowers and ending with some remarkably colourful miniature fungi. Between was a wonderful array of insects, evidently Sandy's favourites, to judge by the quality and his perseverance to get results - including chasing a butterfly up and down a lane for an hour, or kneeling in the mud (not always appreciated back home).

Sandy is no mere photographer, but a good naturalist too, so that the slides were enlivened by fascinating observations that perhaps only an intelligent photographer would be likely to make - such as various butterflies' different tolerances to movement or approach, and the way some camouflaged moths face away from the sun, apparently with the effect of reducing shadows. Looking at beautiful images and at the same time being encouraged to think about them prompt all kinds of question in the mind of the inquiring naturalist. Take those wonderfully camouflaged moths: if we often recognise them, after some searching, by their exact bilateral symmetry, why do their predators not also become especially sensitive to this symmetry? In other words, surely it would benefit the moths to get rid of the symmetry, and so to have different patterns on left and right sides, as in the case of military camouflage. Or take the fly photographed eating another one caught in a spider's web: if that fly, and male spiders, can apparently venture onto spiders' webs without being caught and eaten, is there a special class of scavengers that have learnt how to share in the web-owner's larder? And if not, why not? Or take the neat hole made by a mining bee in apparently loose sand: why does it not collapse? Sandy suggested the bee may use saliva or some other glutinous secretion to bind the sand. And finally, what about those beautiful little fungi: why such bright colours, and such a variety of colours? If it is just to declare 'Poison! Beware!', why are they not all the same colour, which would make it easier for potential fungus-eaters to learn the code? Surely fungi do not need to recognise each other, which is presumably part of the explanation for the variety of colours and patterns in birds and insects.

GH

Wednesday, 21st April

MEMBERS NIGHT

Jim Stewart organised the plant sale which set the evening off to a bustling start as people tried to bargain with him! Roddy Clark had put in a great deal of work in setting up a display of photographs recalling memories of the holiday on Arran which set the tongues wagging at teatime. Elizabeth Farquharson brought an interesting display of bird skulls and two boxes of Scottish Butterflies which belong to the NATS.

We had several short illustrated talks on holidays past and future when Jackie Muscott showed us slides of Arran and Margaret Perry spoke about the forthcoming visit to Arnside; Heather McHaffie told us about her work on the Abernethy bogs; Andrew Gilchrist showed slides of a holiday in La Gomera; Eunice Smith spoke on biodiversity and Elizabeth showed us slides of fungi.

It was a most enjoyable evening and thanks are due to all contributors.

Wednesday, 22nd SEPTEMBER

Mink and Seabirds Dr Clive Craik

Clive Craik formerly worked as a biochemist at Dunstaffnage, but has taken advantage of early retirement to study something quite different - seabirds on Scotland's west coast. It might have remained just seabirds, but for the recent serious declines in breeding success of various gulls and terns - significantly all colonial nesters up to the size of herring gulls, but also Tysties and Eiders, which nest in holes and on the ground respectively. The fact that other birds such as Herons (nesting in trees) and Oystercatchers (on the ground but very widely spaced) were not greatly affected suggests that mink were the culprits. Small islands provide breeding places safe from land predators such as Foxes, Stoats, Weasels and Hedgehogs. It is possible that an ecological niche appropriate to an aquatic carnivore smaller than Otter remained empty until the arrival of the American Mink. Very small numbers of Mink can be responsible for dreadful carnage as many of Clive's slides gruesomely testified. Removing Mink, usually by trapping, is having a striking effect in improving breeding success in seabird colonies. One landowner, has a dog trained to kill mink and his seabird colony in Loch Sunart is thriving.

During the discussion which followed a questioner wondered why the niche appropriate to an aquatic carnivore smaller than an otter seems to have remained empty. It seems that the European mink, which might have fitted the bill, never made it to this country after the last glaciation. The interesting fact emerged that polecat and mink skulls are virtually indistinguishable, and the polecat even has webbed feet, like mink but it has not taken to the water. Whether the culprit is Otter or Mink is determined by the canine-tooth holes left in eggs or crabs predated by the two species: the holes are spaced about 22 mm apart in the case of Otter, and 11-12 mm if Mink is the culprit.

Over a period of about a decade, many seabird colonies have been declining by about 5% each year, which adds up to between one third and one half over ten years. Clive lamented the apparently low priority given by the major conservation interests to the mink problem. Perhaps a gradual annual decline in breeding success does not catch the headlines in the same way as the drama of an oil spill does, but seabird numbers can recover quickly from an oil spill. Mink predation is ultimately far more serious, since it is a direct attack on breeding success: 0% fledging followed by abandonment of colonies is not a recipe for sustaining populations.

GH

See Dr Craik's article on page 6 of this Journal.

Wednesday, 27th OCTOBER

Carrifran Wildwood Dr Philip Ashmore

To show us some of the world's wilderness areas we were treated a whistle-stop tour of various parts of the world where Philip and his wife Myrtle conducted research at various times in their lives. These included Ascension Island, Christmas Island, a swamp in Hawaii, lava flows and caves in Tenerife and the Azores, and a volcanic island in the Galapagos. Nearer to home we saw the barren wastes of St Helena, picked bare by goats and human deforestation, and the mountains of Madeira, with the native vegetation confined to inaccessible cliffs through the depredations of goats and sheep. By contrast Britain has virtually no wilderness left, and the Carrifran Wildwood Project is concerned with restoring wilderness to a valley in the Borders - in the Moffat Hills, adjacent to the National Trust's Grey Mare's Tail property. In the rest of the lecture we learnt about the history of the project, from original inspiration through to the latest stage exercising the option to purchase the valley, to be completed within a day or two of the lecture.

A number of interesting questions came up in the discussion. The goats, for instance, the presence of which is quite incompatible with establishing woodland, will if possible be captured and moved to other places where they are more welcome. There will be no commercial return from the project, that being against the ethic of the whole enterprises, but the local economy should benefit from the materials and labour required in the early management of the site. Eventually there will be open access, but at the same time visitors will not be encouraged to come in huge numbers, on account of the likely damage. There was also some discussion of the pattern of tree planting, and we were able to examine afterwards the magnificently detailed management plan and proposal for the project. A number of society members are already getting involved in the Carrifran Project, and there is plenty of scope for further involvement in the coming years, if only on account of the botanical, ornithological and other monitoring that will probably be needed. It promises to be a beautiful and inspiring place to visit and a landmark in the history of British conservation.

GH

See Dr. Ashmore's article about Carrifran Wildwood on Page 4 of this Journal.

Munro Mushrooms: Treasures of our Hills

Prof. Roy Watling

Before he retired from the Botanic, Roy Watling had an exciting career in mycology, which took him to far-flung parts of the world in search of his beloved fungi. In this evening's talk he came 'back home', to concentrate on those of the Scottish mountains. He reminded us incidentally that, on the last occasion he talked to the Society, the subject was the fungi of sand-dunes. Rather little was known about Scottish mountain fungi before the 1960s, since - unlike sand-dunes - the mountain tops were relatively inaccessible before improved roads and bridges enabled city-dwellers to reach the Cairngorms easily in a day. Roy adopted a historical approach to his subject. With the retreat of the glaciers, Scotland underwent profound changes. Climatic amelioration was followed by afforestation, but then increased rainfall enabled bogs to develop and replace the trees in many areas. Even so, some fungi (eg. species of *Lactarius*) associated with pine remained in the bogs, even though the nearest pines are now long-dead remains under many feet of peat. Other vegetation types have disappeared almost completely from Scotland, such as palsa bogs over permanent ground ice, high-level woodlands and scrub above the tree line - deterred by strong winds and excessive grazing. Yet fungi associated with these former Scotland vegetation types may still linger, and are worth searching for. The vegetation changes meant not only losses. The domestic animals increased the amount of dung, a habitat favoured by *Psathyrella pennata*; and heather moor on peat is home to *Clavaria argillacea* - also found in Scandinavian palsa bogs.

An inescapable aspect of modern mycology is the variety of mycorrhizal associations between fungi and green plants. Many trees benefit from fungi coating their roots and assisting with the absorption of minerals from the poor soils. So far as the fungus is concerned, it is the roots that matter, and what goes on above ground is of little importance; so that a mat of Dwarf Willow - *Salix herbacea*, only a few centimetres above the ground, is a forest.

So forest fungi can be found in the most unforest-like places: for instance *Amanita nivalis* - one of the earliest mountain fungi to be described - is found on bare mountainsides supported by *S. herbacea*, and the willow survives by virtue of being too low-growing to be eliminated by grazing and the wind.

Birch fungi can also be found in similarly exposed sites - supported by Dwarf Birch *Betula nana*. Other dicotyledonous plants are ectomycorrhizal (meaning that the fungus coats the outside of the roots, rather than penetrating inside them) only on mountains, since they can dispense with the fungal assistance in the less severe conditions of the lowlands. Creeping Willow (*S. repens*) has a good ectomycorrhizal flora, including the Arctic *Russula pascua* and *Agaricus* species. On the subject of mycorrhizal fungi, Roy finally told us how his students would be surprised to find so many such fungi in patches of what they thought was grassland, only to discover that the 'grasses' were in fact sedges, which are ectomycorrhizal. *Omphalina pseudo-androsacea* is an interesting little toadstool. It is found in Sphagnum on which there is a green coating - a lichen called *Botrydena vulgaris*. It has been known for the toadstools to be thrown away when the moss and lichen are collected, as 'not belonging', but it is now clear that they do properly belong together; the toadstool - a basidiomycete, so not normally associated with lichen - is actually the fruiting body of the lichenised fungus. The lichen is one of the few and far between basidiolichens; most lichen fungi are *Ascomycetes*. *O. pseudo-androsacea* can fix nitrogen, so benefitting the soil. The topic of symbiosis, meaning different species living in close association, also cropped up in discussion after the talk. There is a fungus, for example, that penetrates the rhizoids of the common thallose liverwort *Marchantia*; and another bryophyte - *Cryptothallus* - relies entirely on a fungus, being unable to photosynthesise. Roy's last slide was of the seashore on St Kilda, to remind him to mention fungi and the sea; but that, apparently, was 'another story'....GH

Saturday, 18th DECEMBER

WINE and CHEESE PARTY

Once again 30 NATS dressed in their party plumage spent a very enjoyable evening at 6 Chamberlain Road, eating, drinking and chatting. Thank you to Elizabeth for her generous hospitality.

ACKNOWLEDGEMENTS

The Journal editors thank all the contributors for producing such a variety of articles. Many articles came unsolicited this year: the editors greatly appreciated not having to bully too many people!

Thanks too are due to the following people:

Eric Perry for help and advice on layouts and many beautiful drawings; Jackie Muscott for her many lovely drawings; Karin Scott too helped out with a few nice sketches.

The Journal Committee for their meticulous attention to detail in checking the final output.

One of our members found the lovely cartoons on pages 5, 26 and 39. We have been unsuccessful in tracing the source. If the owner of the copyright should wish to contact us, we will acknowledge his work in next year's Journal.

EDINBURGH NATURAL HISTORY SOCIETY JOURNAL 2000

There must be a lots of undiscovered talent among the members and friends. Articles, observations, sketches, cartoons, funny incidents on outings or at other times.....

The deadline is 20th December, but if you have any ideas NOW, please let us have them as soon as the inspiration strikes!

SOCIETY EQUIPMENT

In addition to books held in the Library, the Society has various other items which can be borrowed by members for their private use, including LP records of birdsong with accompanying booklet, and a recording of Grasshoppers. Needless to say, members will be responsible for the care of books and equipment on loan.

Telescope:	A Bushnell Spacemaster of 20x-40x magnification, in carrying case and a car window mount for in-car use. <i>Apply to Miss Molly Woolgar (Tel. 0131 667 2688)</i>
Microscopes:	A number of high and low power microscopes. <i>Apply to Miss Margaret Perry (Tel. 0131 447 3515)</i>
pH Meter:	For measuring the alkalinity/acidity of soil or water. <i>Apply to Mrs Elizabeth Farquharson (Tel. 0131 447 1994)</i>
Mammal Traps:	Twenty-four small mammal traps. <i>Apply to Mrs Elizabeth Farquharson (Tel. 0131 447 1994)</i>
Photographic slides:	A comprehensive slide collection left to the Society by Miss Janet Raeburn. The subjects are mostly botanical but also include birds, mammals, butterflies and Scottish scenery. They are kept in the Library.
Bawsinch Key:	The Bawsinch Nature Reserve at Duddingston is managed by the SWT, who allow the Society to hold a key for members to have access to the hide overlooking Duddingston Loch. <i>Apply to Mr Jim Stewart (Tel. 0131 447 4210)</i>
Computer Scanner:	If you would like anything scanned - <i>Apply to Sandra Stewart (Tel:0131 441 2641)</i>

